IMPLEMENTATION AND ENFORCEMENT OF PUBLIC PARTICIPATION IN THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS IN MALAYSIA

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Abstract

The Environmental Impact Assessment (EIA) has been established as a mandatory requirement in Malaysia with the introduction of Section 34A to the Environmental Quality Act 1974(EQA) and its subsidiary legislation Environment Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987. This study critically examines the implementation and enforcement of public participation in the Malaysian EIA process. This is done by reviewing the provisions in the EIA laws and guidelines, court decisions on public participation as well as information gathered from the stakeholders interview.

The major finding of this study is that while public participation is implemented in the EIA process, the existing level of implementation and enforcement is inadequate. Amendments to the legal provisions and better enforcement of the procedural requirements should be implemented to remedy this predicament. Steps should be taken to improve access to justice by relaxing the requirement for *locus standi*. Malaysia should adopt the provisions of the Aarhus Convention on public participation in environmental matters and emulate the measures taken by countries with effective public participation in the EIA process. Enforcement of these measures will ensure that that Malaysians may exercise their right to public participation in the EIA process in a meaningful manner.

Abstrak

Di Malaysia, Penilaian Kesan kepada Alam Sekitar (EIA) merupakan satu syarat wajib apabila Seksyen 34A Akta Kualiti Alam Sekeliling 1974 dan undang-undang subsidiarinya iaitu Perintah Kualiti Alam Sekeliling (Aktiviti yang Ditetapkan) Penilaian Kesan kepada Alam Sekeliling) 1987 digubal. Kajian ini mengkaji secara mendalam pelaksanaan dan penguatkuasaan terhadap penyertaan awam di dalam proses EIA di Malaysia dengan menyemak peruntukkan-peruntukkan undang-undang EIA dan garis panduan serta keputusan-keputusan mahkamah berkaitan kes-kes melibatkan isu penyertaan awam. Maklumat yang diperolehi daripada temeubaul bersama pihak-yang terlibat juga memainkan peranan penting.

Penemuan utama kajian ini adalah walaupun penyertaan awam diamalkan dalam proses EIA, pelaksanaan dan penguatkuasaannya adalah berkurangan. Bagi menyelesaikan masalah ini, pindaan undang-undang serta pelaksanaan yang lebih berkesan perlu dilakukan. Langkah-langkah untuk mempermudahkan masyrakat untuk mendapat keadilan di mahkamah perlu diambil. Malaysia perlu mengambil contoh daripada kandungan Konvensyen Aarhus dan negara-negara yang berjaya menjalankan penglibatan awam dengan berkesan dalam proses EIA. Langkah-langkah ini perlu diambil untuk memastikan rakyat Malaysia dapat menjalankan hak mereka untuk menglibatkan diri dalam proses EIA secara berkesan.

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List of Abbreviations

DEIA	Detailed Environmental Impact Assessment
DOE	Department of Environment
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Auditing
EMP	Environmental Management Planning
EPD	Environmental Protection Department
EPE 2002	Environmental Protection Enactment 2002
EPO 2005	Environmental Protection Order 2005
EQA 1974	Environmental Quality Act 1974
EQO 1987	Environmental Quality Order 1987
NGO	Non-Governmental Organisations
NRE	Ministry of Natural Resources and Environment
NREB	Natural Resources and Environment Board
NREO 1994	Natural Resources and Environment Order 1994
NREO1993	Natural Resources and Environment Ordinance 1993
OSA	One Stop Agency
PMM	proposal for mitigation measures
TOR	Terms of Reference
UN	United Nations
UNECE	United Nations Economic Council for Europe

Chapter 1: Introduction

1.1 General Background

Environmental Impact Assessment (EIA) has become one of the most effective and practical tools to support sustainable development. As a country that is keen to strike a meaningful balance between environmental protection and the need for development, Malaysia recognises the important role that EIA plays in ensuring that the nation does not sacrifice its environment in the race for development. One of the strategies set out in the National Policy on the Environment is the integration of environmental considerations into development activities and all related decision-making processes[1]. To attain sustainable development, there is a need to integrate and reconcile the three principles of economic growth, environmental management and social justice within the nation's development framework[2]. The requirement for social justice is inline with the participatory approach to development which encourages full participation of society in the decision making process. In this respect, the role of public awareness and feedback on planned development projects have to be incorporated in the EIA[3]. EIA has been identified to be a prudent and efficient preventive tool for protecting the environment from being degraded due to development activities that are necessary for a nation's economic development.[4] This awareness led Malaysia to make EIA reports a mandatory requirement with respect to nineteen prescribed activities that are considered most probable to harm

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[1] Malaysia, Ministry of Science, Technology and the Environment, *National Policy on the Environment*, (Kuala Lumpur: Ministry of Science, Technology and the Environment, 2002)

[2] Munasinghe, Mohan, *Economic, Social and Environmental Elements of Development*, The Encyclopedia of Earth Website, <http://www.eoearth.org/article/Economic,_social,_and_environmental_elements_of_development>, retrieved on 9 Apr 2008

[3] *Participatory Approach to Development*, <http://www.un.org/Docs/SG/approach.htm>, retrieved on 9 Apr 2008

[4] Ansari, Abdul Haseeb, *Role of Public Participation in Environment Impact Assessment Law in Malaysia and its Enforcement,* <http://www.law.pace.edu/environment/2006-colloquium-papers/ansari.doc>, retrieved on 4 Nov 2007, pg 2

the environment. This requirement is stated in section 34A of the Environmental Quality Act 1974(EQA 1974).

The requirement for EIA has been enforced for the last three decades. EIA is a process that identifies and predicts adverse consequences on the environment as a result of any proposed activity and recommends alternatives or other measures to mitigate these consequences.[5] While governed by the EQA 1974, the EIA process and procedure is explained in detail in the Handbook of Environmental Impact Assessment Guidelines (EIA Handbook). One of the requirements expressly stated in the EIA Handbook is the need for a form of public participation to be included in the EIA study[6].

Public participation in decision-making in an EIA process brings together project proponents, government authorities, and members of the public (including Non-Governmental Organisations). Public participation functions by assisting the clearing up of misunderstandings and creating a better understanding of relevant issues, meeting public needs and enhancing access to environmental information.[7]

Realising the many benefits of public participation, the Department of Environment (DOE) through the publication of the EIA Handbook makes express mention of the need to include public participation in the EIA study. However, by neglecting to mention in detail the level or standard of public participation required to be conducted, there is some ambiguity when it comes to 'how' and 'how much' public participation is to be conducted in an EIA.

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[5] Kanniah, Rajeswari, *Public Participation In the Environmental Impact Assessment Process In Malaysia*, cxxxiv [2000] 3 MLJ

[6] Malaysia, Department of Environment, *Handbook of Environmental Impact Assessment Guidelines*, S1.4.5 ,(Kuala Lumpur: Department of Environment, 2007)

[7] See note 4, pg 1

Zainab says that in Malaysia it is still a challenge to ensure adequate participation in the EIA process and there is an urgent need to establish an appropriate mechanism for public participation in the EIA processes and procedures in Malaysia[8]. Haseeb voices agreement to her statement by saying that although Malaysian law (i.e. EQA 1974) enshrines the three cardinal principles of the Aarhus Convention and is comparable to similar laws in developed countries, the situation is not improving[9].

The study aims to discover the state of effectiveness or otherwise of public participation in the Malaysian EIA process. Some have put the blame on the legal framework for not clearly and unambiguously providing the right of public participation in the EIA process[10]. It has been suggested by Kanniah that a lack of enforcement of the procedures is one of the main reasons of the problem. She is also of the view that providing the public with restricted access and opportunities to participate in decision-making in the EIA process is the root of the problem[11].There appears to be varied views among stakeholders as to the adequacy of the current practice of public participation. By analysing the existing laws and current practice of the EIA process, the adequacy could be evaluated with more certainty.

1.2 Objective of the study

This study aims to study the implementation of public participation in the EIA process in Malaysia. The study will also study and analyse the adequacy of existing legislation governing the EIA process in order to determine whether it is adequate in ensuring that the right to public participation is enforced in the EIA process.

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[8] Dr Hajah Zainab Zubir, *Public Consultation and Participation in Environmental Impact Assessment*, IMPAK, Issue3/2007, (Kuala Lumpur: Department of Environment, 2007)pg 10
[9] See note 4, pg 1
[10] See note 8, and note 5
[11] See note 5

A comparison of the Malaysian practice with the provisions of the Aarhus Convention and the practice of selected countries on public participation on environmental matters, and in particular the EIA process will also be done to gauge whether the local practice is up to the current international standards.

1.3 Scope of the study

In fulfilling the above objectives, a critical review of:

i) EIA laws;

ii) EIA process and procedure;

iii) Requirements and implementation of public participation in the EIA process;

and an investigation through:

i) Malaysian case study; and

ii) Comparison with Aarhus Convention and practice of other countries

would be conducted.

1.4 Importance of the study

The purpose of having public participation in the EIA process is to allow all concerned stakeholders to be involved in the decision-making process. This will render the EIA to be a fairer and more transparent process. Kanniah is of the view that effective and regulated public participation will also ensure the EIA process will be less amenable to corrupt influences[12]. An open and transparent EIA will result in only projects that really benefit the people are approved for implementation.

[12] see note 5

By highlighting the problems faced in implementing public participation in EIA, it is hoped that steps are taken by relevant authorities are taken to improve the situation. This can be done by educating and raising awareness among all interested parties on the actual objectives and benefits of EIA. Once project proponents come to the realisation that EIA is a planning tool that brings benefit to all, including them, it is anticipated that the role of public participation will be given more emphasis. Public participation will allow the project proponent to see the advantages of obtaining public feedback and comments before commencing on any development project.

Awareness on the need and importance of public participation will result in all parties taking their role more seriously as they know that they are accountable to the people who can voice their dissatisfaction by submitting a complaint. This will hopefully result in a higher standard of professionalism from all stakeholders, from the project proponents to the EIA consultants to the government agency employees to the State authorities.

The advantage of studying all the existing legislation will also enable us to examine whether the laws contain any loophole that could be the cause for the ineffectiveness of public participation. The study will help identify such loophole and suggest the best solution to overcome it.

By including a comparison with the Aarhus Convention and examples of good practice of public participation in other countries will provide the opportunity for Malaysia to learn a few lessons from their implementation and enforcement of that treaty and try to adopt the same principles locally.

1.5 Structure of the study

This study is carried out using the following format:

Chapter 1: Introduction and methodology to the study

Chapter 2: EIA laws in Malaysia

Chapter 3: EIA process and procedure

Chapter 4: Public participation in the EIA process in Malaysia

Chapter 5: Aarhus Convention and international case study

Chapter 6: Recommendation and conclusion

1.6 Methodology of study:

In preparation for conducting this study, a combination of various research methods was used. This includes critical literature review, case study, legislation study and interviews with the relevant parties including government agencies, EIA consultants, NGOs and other interested parties.

1.6.1 Literature review

In conducting this study, reference was made to various sources of material, including books, journals and articles. These include:-

No.	Source of Reference	Information Solicited
1.	A Haze of Secrecy – Access to Environmental Information in Malaysia, ARTICLE 19 and Centre for Independent Journalism, 2007	The book provided information on the state of access to public participation and environmental information in Malaysia from the viewpoint of NGOs and journalists. The book also provided interesting local case studies that are reproduced in the study.
2	Environmental Impact Assessment (EIA) Procedure and Requirements in Malaysia, Sixth Revision Department of Environment, 2007	This book contains a concise summary on the EIA procedure and Requirements to be adhered to in preparing an EIA report. The book helps to explain the EIA process in non-technical terms that are easy to be understood

3	A Handbook of Environmenta Impact Assessment Guidelines (Fourth Edition, Department o Environment, 2007)	This handbook contains the complete and in depth guidelines on the EIA process in Malaysia. This handbook was the main source used in preparing Chapter 2 and 3 of the study.
4	Environmental Impact Assessmen Guidelines for Forestry (Department of Environment, 1998)	This book contains the EIA guidelines specifically regulating forestry activities. The book provides examples of the application of the guidelines stated in the EIA Handbook for forestry activities.
5	The Handbook on Environmenta Impact Assessment in Sabah (Environment Protectio Department, 2005)	This handbook contains the guidelines for preparing EIA reports for projects in Sabah. The book was used to compare and analyse the differences and similarities betwee the practice in Sabah and Peninsula Malaysia.
6	Environmental Impact Assessment Law & Policy, William Sheate, 199	This book elaborates on every aspec of the EIA process, from the histor of EIA to the implementation of EIA i the UK and Europe to the development of EIA laws an policies. The book provided some insight on the need and importanc of having a proper EIA process i place as well as the elements to b incorporated to ensure the process i capable of being implemente properly. The book also highlighte the need for public participation to b included as part of an effective EI system.
7	Role of Public Participation i Environment Impact Assessmen Law in Malaysia and its Enforcement, Ansari, Abdu Haseeb,2006	This academic paper examines the current practice of public participatio in the Malaysian EIA system. The author also examines the Aarhus Convention the practice of othe countries concerning environmenta matters, The author also provides some suggestions on how he believes the situation in Malaysia ca be improved.
8	Public Participation In the Environmental Impact Assessmen Process In Malaysia, Kanniah Rajeswari, cxxxiv [2000] 3 MLJ	This academic paper examines the Malaysian EIA process with detailed analysis on the public participatio element of the process. The autho voices her view that the existing framework for public participation i the process is inadequate by pointing out the Sarawak position of n

		mandatory public participation and b making reference to the court reluctance to grant access to justic when it comes to environmen matters.

1.6.2 Library

A lot of material used in this study was obtained from the libraries below. While quite limited, the material that was discovered helped tremendously in the completion of the study. The libraries visited are as follows:-

1) Department of Environment Library, Putrajaya

2) Tan Sri Professor Ahmad Ibrahim Law Library, University Malaya

3) Za'ba Memorial Library, University Malaya

1.6.3 Internet

Searching for and accessing information has been made much easier by using the world wide web of the internet. A lot of valuable, interesting and relevant information were discovered through online research conducted. Visits were made to numerous websites such as the websites of Malaysian governmental bodies like Department of Environment, Natural Resources and Environment Board Sarawak, Sabah Environment Protection Department. Information was also found from international websites such as the United Nations (UN) website and the Aarhus Convention Clearinghouse website, as well as other websites concerned with environment protection, sustainable development, freedom of information and public participation. The information obtained provided for better understanding and answered many questions and some have been reproduced in the study (see bibliography for full listings).

1.6.4 Fieldwork

As stated earlier, there is a shortage of up to date written material available that relates towards the topic of study. This resulted in the decision to seek information and clarification directly from various interested parties. A considerable amount of the information was obtained from experienced EIA consultants, knowledgeable academicians, relevant Non-Governmental Organisations (NGOs) and government departments.

To supplement the information obtained from the written literature, a series of interviews were conducted with members of interested parties. This was a very beneficial approach for obtaining material as it provided a reality based viewpoint that could be compared to the theoretical views attained from the written literature. Questions were asked in order to find answers to the following issues:-

1. Is the public participation element in the Malaysian EIA process adequate and effective.
2. Are existing legislations concerning the EIA process adequately protecting the public's right to access environmental information and to participate in the decision-making process on environmental matters.
3. What government bodies have been empowered to implement these laws and ensure proper enforcement is in place.
4. Who are the interested parties and what role do they play in the Malaysian EIA process.
5. What steps have been taken to ensure proper implementation and enforcement of public participation in the EIA process.

6. What is the role of citizens and NGOs in the public participation element of the EIA process and how far is it encouraged or discouraged by existing laws and government policy.

Answers to these questions will provide a better understanding on the situation, problems and issues faced in Malaysia when it comes to the implementation and enforcement of public participation in the EIA process.

Specifically listed below are the interviews conducted:

i) Ms. Lina Chan, EIA Consultant, Chemsain Konsultant Sdn Bhd

ii) Dr. Ir. G. Balamurugan, Managing Director and EIA Consultant, ERE Consulting Group

iii) Raja Nur Ashikin Raja Zainal, Director and EIA Consultant, ERE Consulting Group

iv) Prof. Dr. Mohd Shahwahid Othman, DEIA Review Panelist and Lecturer, Universiti Putra Malaysia

v) En. Vitalis J Moduying, Environmental Control Officer, Sabah Environment Protection Department

vi) Puan Zuhainim Abdul Ghafar, Environmental Control Officer, Department of Environment

vii) Ms. Sonia Randhawa, Assistant Editor, Centre for Independent Journalism Malaysia

Chapter 2: EIA Laws in Malaysia

2.1 Introduction

This chapter will look at the laws regulating the EIA process and procedure in Malaysia. Among the reasons for the lack of public participation in the Malaysian EIA process that would be investigated is the existing legal framework's inadequate emphasis on the need for a proper form of public participation. Proper implementation and enforcement could also be hampered by the fact that Malaysia has three separate laws governing the EIA process.

2.2 Federal Laws

EIA became a mandatory requirement in Malaysia from 1986, with an amendment to the Environmental Quality Act 1974(EQA 1974)[13]. The amendment inserted a new provision into the Act, section 34A[14]. This led to the issuance of the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987[15]. The Director-General of Environment subsequently issued 'A Handbook of Environmental Impact Assessment Guidelines' (EIA Handbook) which provides for the procedures for conducting EIAs. The EIA Handbook is a piece of subsidiary legislation by virtue of Section 34A(2) of the EQA 1974 and procedures contained therein are therefore legally enforceable and binding on all parties.

2.2.1 Environmental Quality Act 1974 (EQA 1974).

The EQA 1974 is the main legislation regulating all environmental matters in Malaysia. Section 34A of EQA 1974 empowers the Minister (of the Ministry of Natural Resources and Environment) to prescribe any activity which may have

[13] Act 127
[14] S.34A, Environmental Quality Act 1974
[15] P.U.(A) 362/87, w.e.f 1 April1998

significant environmental impact as a "prescribed activity". This led to the issuance of the Environment Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987.

Section 34A makes it a requirement for any person intending to carry out a prescribed activity to submit an EIA report to the Director-General of Environmental Quality (Director-General) before approval for the activity is granted by the relevant approving authority. The Director-General has the authority to approve or reject the EIA report and he must inform in writing both the proponent and the approving authorities the reasons for his decision. Section 34A also states that contravention of this requirement is an offence.[16] There is no mention in the Act on the requirement for public participation to be satisfied in an EIA study. The full text of section 34A is reproduced as **Appendix 1**.

2.2.2 Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987 (EQO 1987)

The EQO 1987 came into force on 1 April 1988. It lists the nineteen categories of "prescribed activities" that are subject to the requirements stated under Section 34A of EQA 1974.[17] The full text of EQO 1987 is reproduced here as **Appendix 2.** Some of the activities are defined in terms of project size or capacity as listed in **Table 1.**

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[16] S.34A(8) of EQA1974 states that contravention to this provision is an offence punishable by a fine not exceeding one hundred thousand Ringgit or imprisonment for a period not exceeding five years or both, and is subject to a further fine of one thousand Ringgit for every day that the offence is continued after a notice by the Director-General requiring compliance has been served upon him

[17] The nineteen categories of prescribed activities are :

- Agriculture;
- Airport;
- Drainage and irrigation;
- Land reclamation;
- Fisheries:
- Forestry;
- Housing;
- Industry:

2.3 Position in Sarawak

Both Federal and State environmental laws are applicable in respect of implementation of EIA in the state of Sarawak. Besides Section 34A(2) of EQA 1974, State law in the form of Natural Resources and Environment Ordinance 1993 (NREO 1993) is applicable. Some sectors of activities are governed by the EQA 1974 while other activities fall under the jurisdiction of the NREO 1993. The areas of jurisdiction are based on the areas demarcated in accordance with the entries listed in the respective Federal and State legislative lists of the Ninth Schedule of the Federal Constitution[18].

2.3.1 The Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987 (EQO 1987)

Order 3(b) of EQO 1987 specifically states that the Order shall not apply in Sarawak in respect of the prescribed activities listed in the First Schedule of the Natural Resources and Environment (Prescribed Activities) Order 1994. Order 4 lists the categories of activities that are still under the jurisdiction of the DOE[19].

- Infrastructure;
- Ports;
- Mining;
- Petroleum;
- Power generation;
- Quarries;
- Railways;
- Transportation;
- Resort and recreational development;
- Waste treatment disposal; and
- Water supply.

[18] Mamit, J.D. *Environmental Impact Assessment(EIA) Procedure and Process in Sarawak.* Paper presented at Training course on Environment Management, 15-19 December 1997, Kota Kinabalu, Sabah (Sabah:1997)

[19] The activities still subject to EQO 1987 in Sabah and Sarawak

- Airports
- Fisheries (construction and expansion of fishing harbours)
- Industries (Chemical & Petrochemicals, Non-ferrous, Non-metallic, Iron & Steel, Shipyards, Pulp and Paper)
- Infrastructure (Constructions of Hospitals, Expressways & National highways, New townships)
- Construction of Ports

2.3.2 Sarawak State laws

2.3.2.1 The Natural Resources and Environment Ordinance 1993 (NREO 1993)

This is the state legislation on environmental management in the state. Matters concerning natural resources and environment are managed by the Sarawak Natural Resources and Environment Board. Section 11A(1) empowers the Board to require any person undertaking any of the prescribed activities stated in the provision to submit a report prepared by an expert approved by the Board, on the impact of such activity on the natural resources and environment.[20]

2.3.2.2 The Natural Resources and Environment (Prescribed Activities) Order 1994 (NREO 1994)

NREO 1994 lists the activities that must go through an EIA and provides the mandatory requirements related to an EIA report. The prescribed activities are listed in the First Schedule of NREO 1994 which is reproduced here as **Appendix 3**[21].

Order 3 requires any person who undertakes any prescribed activity to submit to the Board a report prepared by an expert approved by the Board. Order 6 states that no

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- Petroleum
- Power Generation and Transmission
- Construction of Railways
- Construction of mass rapid transport projects
- Waste Treatment and Disposal (Toxic & hazardous waste, Municipal waste & sewage)

[20] S.11A(1) of Natural Resources and Environment Ordinance 1993

[21] Prescribed activities under First Schedule of Natural Resources and Environment Order 1994

- Agricultural development
- Logging
- Development of commercial, industrial and housing estates
- Activities which may pollute inland water or affect sources of water supply
- Fisheries and activities which may endanger marine or aquatic life, plants in inland waters or erosion of river banks
- Extraction or removal of rock material and mining
- Any other activity which may damage or have adverse impact on environment or natural resources of the state(include the construction of parks and recreational facilities, construction of buildings, establishments of golf courses, construction of port facilities, development of resort facilities within fore shores of State, any development activity carried out within water catchment area, construction of roads, extraction or removal of soil, establishment of planted forest, clearing of vegetation from land or breaking up of land)

prescribed activity shall commence until the report has been considered by the Board and the Board has given permission in writing for such activities to be undertaken or commenced, and the person carrying out such activities has undertaken in writing to comply with all such orders or directions made by the Board.

2.4 Position in Sabah

Similar to Sarawak, the implementation of EIA in Sabah is governed by both Federal and State environmental laws. Due to the separation of jurisdiction according to the type of prescribed activity, EIAs for sectors of activities that fall under the Federal List of the Ninth Schedule of the Federal Constitution will be governed under section 34A(2) of the EQA 1974 by the DOE while EIAs for sectors of activities that fall under the State list are to be administered by the Environment Protection Department (EPD) under the Environment Protection (Environmental Impact Assessment) Enactment 2002 (EPE 2002).

2.4.1Sabah State laws

2.4.1.1 Environment Protection Enactment 2002 (EPE 2002)

The Environment Protection (Prescribed Activities) (Environmental Impact Assessment) Order 2005 (EPO 2005) was formulated under section 12(2) of EPE 2002 to replace the Conservation of Environment (Prescribed Activities) Order formulated under the Conservation of Environment Enactment 1996. The EPO 2005 has been revised and reviewed to constitute two categories of prescribed activities that require either a proposal for mitigation measures or an environmental impact assessment report.

In the process of drafting the EPE 2002, the drafters had the advantage of studying other legislation and learning from their strengths and weaknesses. By making a

comparison, the EPE 2002 can be considered as much improved when compared to the EQO 1987 or the NREO 1994. The provisions are less ambiguous and detailed, leaving little room for uncertainty on the requirements to be complied with.

In Sabah, any person who intends to undertake a project that falls under any category of the prescribed activities must submit a proposal for mitigation measures (PMM) or an environmental impact assessment report (EIA report) as required under section 12 of EPE. No person shall start any development activity until the PMM or EIA report has been submitted and approved by the Director of EPD (the Director)[22]. No prescribed activity shall be carried out or commenced until the PMM or EIA has been approved and the person carrying out the prescribed activity has undertaken in writing to comply with the conditions, orders or directions specified with the approval by signing a mitigation declaration or an agreement of environmental conditions[23]. In the event of any breach of the undertaking, the Director is empowered to order the cessation of the activity by issuing a notice in writing[24]. Section 51 of EPE 2002 makes it an offence for any person to carry out any prescribed activity without submitting an EIA report and obtaining the approval of the Director[25].

2.4.1.2 Environment Protection (Prescribed Activities) (Environmental Impact Assessment) Order 2005 (EPO 2005)

Sabah's EPO 2005 contains a unique provision which requires the submission of a proposal for mitigation measures (PMM) or an environmental impact assessment report (EIA) for all projects that fall under any of the prescribed activities. The First

[22] S.12(3) of Environment Protection Enactment 2002
[23] Order 8 of Environment Protection Order 2005
[24] See note 23
[25] S. 51 of Environment Protection Enactment 2002, a conviction under this provision is punishable by a fine not exceeding one hundred thousand ringgit or imprisonment for a term not exceeding five years or both fine and imprisonment

Schedule of EPO 2005 lists the prescribed activities that require the submission of a PMM while the Second Schedule lists the prescribed activities that require the submission of an EIA. Both First and Second Schedule are provided here as **Appendix 4** and **Appendix 5**.

2.5 Conclusion

An analysis of the provisions governing the Malaysian EIA process shows no mention of any requirement for public participation. The main legislations only confer the power upon the Minister or the Director, for both Sabah and Sarawak to prescribe activities that will then be subject to EIA. Public participation is only mentioned in the EIA Handbooks or guidelines. The lack of provisions expressing the need and importance of effective public participation in the legislation gives rise to the perception that public participation does not play an important role. It is recommended that an express mention for the need of public participation is to be included into the statutes. Doing so would erase any doubt or ambiguity on the requirement for public participation in the EIA process.

In this chapter, a thorough analysis was done on the legislation pertaining to EIA. However, it must be noted that the law merely provides the framework for EIA, the actual implementation of public participation can only be seen through the enforcement of the procedural requirements provided in the EIA Handbook. In the next chapter, a review of the provisions in the EIA Handbook will be carried out to determine in what form and to what extent is public participation practised in the Malaysian EIA process.

Chapter 3: EIA Process and Procedure

3.1 Introduction

This chapter will elaborate on the EIA process by referring to the guidelines issued by the Department of Environment (DOE) for Peninsular Malaysia, or for Sabah and Sarawak, both the DOE, and the Environmental Protection Department (EPD) for Sabah, and the Natural Resources and Environment Board (NREB) for Sarawak. The procedural requirements for EIA of prescribed activities in Malaysia are prescribed in the EIA Handbook which was published by the DOE. Both NREB and EPD also publish their own EIA Handbook. The DOE has also issued EIA guidelines for each sector stated in EQO 1987.

For Sabah and Sarawak, there is a separation of jurisdiction according to which prescribed activity the proposed project falls under. Order 4 of EQO 1987 states that the EQO only applies in Sabah and Sarawak to certain prescribed activities as stated therein (as discussed in Chapter 2).

This chapter will review the procedural requirements as stated in the guidelines.

3.2 Definition and Objective of EIA Process

An Environmental Impact Assessment (EIA) is a study conducted to identify, evaluate and communicate information about the impacts on the environment of a proposed project and to detail out the mitigating measures prior to project approval and implementation.[26]

[26] Malaysia, Department of Environment, *Environmental Impact Assessment (EIA) Procedure And Requirements In Malaysia*, 6th revision, (Putrajaya: Department of Environment, 2007) pg 1

An EIA is needed for each and every development project as it is essentially a planning mechanism for preventing environmental problems due to actions taken in or during the project. An EIA ensures that the potential problems are foreseen and addressed at an earlier stage in the project planning and design. By doing so, this avoids the making of costly mistakes in project implementation, either because of the environmental damages that are likely to arise during project implementation, or because of modifications that may be required subsequently in order to make the action environmentally acceptable.[27]

3.3 The EIA Procedure in Malaysia

The EIA process in Malaysia is designed to follow the Integrated Project Planning Concept as shown in **Figure 1**. It is recommended that the project proponent take steps to ensure that the Concept is followed to minimise project delay and improve project planning[28]. The main features of the Concept are as follows[29]:-

Firstly, at the onset, the need to conduct an EIA study is determined during the project identification stage, at this stage, before the EIA study is conducted, the project proponent has to confirm that the project concept is in line with any development plans, policies and decisions of the Malaysian government.

Secondly, if the project requires an EIA, the project proponent must prepare a Pre-feasibility Study for the project and at the same time, the project proponent must also conduct screening of project options in respect of alternative sites and design variants with the aim of selecting the optimum site and design concept.

[27] See note 26, pg 1
[28] See note 26, pg 9
[29] See note 26, pg 8

Public scoping is conducted to ensure that all environmental concerns of importance to the decision maker are addressed comprehensively in the EIA report[30]. The scoping exercise is usually conducted simultaneously with or immediately hereafter, the site selection and project options assessment. The scoping exercise would determine the level and scope of EIA studies required for the project.

The EIA study covers detailed identification of potential impacts, baseline surveys and data gathering, prediction and evaluation of impacts including risk assessment, mitigation and abatement of impacts and Environmental Monitoring and Auditing (EM&A) requirements.

Thirdly, the EIA report is reviewed simultaneously with the Pre-feasibility and Feasibility reports before a final decision on the project is made. Review and decision on approval of the EIA is made by the DOE. The DOE decision will be followed by the issuance of approval conditions, requirement for further study or rejection of the EIA.

The next step is the preparation of the Environmental Management Planning (EMP) and the detailed design of mitigation measures which refines the recommendations on mitigation and EM&A into an effective environmental protection strategy that demonstrates compliance to the terms of the EIA's approval.

It must be ensured that during the project construction, the mitigating measures and EMP for construction must be implemented. The environmental monitoring and

[30] Department of Environment, *Environmental Impact Assessment Guidelines for Forestry*, (Kuala Lumpur: Department of Environment, 1998),pg 5.1

auditing are carried out throughout project operation to ensure the effectiveness of the mitigating measures.

It is recommended that the environmental activities be conducted according to the recommended format with environmental considerations integrated at the earliest opportunity. **Figure 2** shows the sequence of activities generally required for planning approval and compliance with environmental approval conditions in more detail.

From Figure 2, it can be seen that EIA is a multi-party process involving a number of stakeholders who each have their own role to play. **Table 2** shows the role and interest of the various government agencies and other stakeholders.

3.4 Stages of the EIA Process

The EIA Handbook prescribes three stages of the assessment process, depending on the level of the environmental impact of the activity in question. The three stages are as follows:-

a) preliminary assessment

b) detailed assessment

c) report review.

EIA Handbook also has a flow chart outlining the step by step process of an EIA[31]. The chart is reproduced here as **Figure 3.**

3.4.1 Preliminary Assessment

[31] Figure 1.1: Environmental Impact Assessment Procedure in Malaysia, taken from Department of Environment, *A Handbook for Environmental Impact Assessment Guidelines*, (Putrajaya: Department of Environment, 2007), pg 13

All activities that fall within the definitions of 'prescribed activities' in EQO 1987 will have to go through a preliminary assessment. This is the first step of the process and will be done by the project proponent. Usually the project proponent will hire EIA consultants to do the assessment on their behalf. Any project not listed as a prescribed activity in the EIA Order 1987 may be submitted directly to the project approving authority for implementation approval without the need of an environmental assessment report.

However, as of 14 January 1999, certain activities which involve major or significant impacts to the environment are exempted from going through a preliminary assessment as it is mandatory for them to go through a DEIA. Such activities are as listed in the EIA Procedure and Requirements in Malaysia and reproduced here as **Appendix 6.**

The aim of a preliminary assessment is to determine whether the proposed project falls within the definition of a prescribed activity. It is recommended in the EIA Handbook that a preliminary assessment be initiated during the early stages of project planning i.e. the pre-feasibility study stage, to ensure that as the project concept develops into an outline plan, the environmental factors have also been reviewed along with the technical and economical assessment of the project[32].

The EIA Handbook recommends that a Preliminary EIA should consist of a Preliminary Assessment Matrix which is used as a graphic summary of the environmental concerns arising from the project. An example of a matrix is shown as

[32]S. 2.1.2 see note 6, pg 15

Table 3[33]. Beside that, a preliminary assessment should also include some environmental data collection[34], some form of public participation[35], an environmental costs and benefits analysis[36] and a description of the project[37]. Chapter 5 of the EIA Handbook provides detailed guidelines on the preparation of a Preliminary Assessment Report. Besides the requirements under Section 2.3 of the EIA Handbook, the report must include a detailed description of the project concept and project options, a description of the existing environment, potential significant impacts, mitigation and abatement measures, residual impacts and a summary of the conclusion of the report. A flow chart detailing the procedure for a Preliminary EIA is shown in **Figure 4.**

3.4.2 Detailed Assessment

The objectives of having detailed assessment for prescribed activities include[38]:

(i) to describe the significant residual environmental impacts predicted from the final project plan;

(ii) to specify mitigating and abatement measures in the final project plan; and

(iii) to identify the environmental costs and benefits of the project to the community.

A flow chart detailing the procedure for a DEIA is shown in **Figure 5.** DEIA should be conducted during the project feasibility study. The main difference between a preliminary and detailed assessment is the need for a Terms of Reference (TOR) in the detailed assessment. A TOR lists the significant impacts on the environment as

[33] see note 6, pg 17
[34] S. 2.3.3 see note 6, pg 18
[35] S. 2.3.4 see note 6, pg 19
[36] S. 2.3.5 see note 6, pg 19
[37] S. 5.2 (v) see note 6, pg 32
[38] S. 1.5.4 see note 6, pg 8

well as impacts of unknown significance that need to be studied during the DEIA. Similar to a preliminary assessment, there is a need to include some environmental data collection[39], some form of public participation[40] and an environmental costs and benefits analysis[41] in a DEIA. A complete list of the content of a TOR is stated in **Table 4.** The flow chart for the procedure for the submission of a TOR is reproduced here as **Figure 6**.

Upon completion of the DEIA, a formal report is required to be submitted to the DOE. The detailed assessment report (DEIA report) will be prepared by the EIA consultant that has been engaged by the project proponent. All costs for the preparation and distribution of the DEIA report will be borne by the project proponent. The DEIA report can be considered as an expansion of the preliminary assessment report which covers the same aspects but in more detail. The DEIA report should give emphasis to the final selection of the project option, mitigating and abatement measures, significant residual impacts, environmental data collection and the evaluation of costs and benefits.[42]

If the project proponent is of the belief that in the national interest or due to proprietary rights, certain parts of the DEIA report should not be disclosed to the public, he may apply to the Director-General for the information to be kept confidential.[43] The project proponent must notify the Secretariat for the Review Panel where the public can obtain copies of the DEIA report and the cost of each copy. The usual practice is to ensure the DEIA report is located in easily accessed public places such as libraries and police stations and it must be ensured that the DEIA

[39] S. 3.4.3 see note 6, pg 22
[40] S. 3.4.4 see note 6, pg 23
[41] S. 3.4.5 see note 6, pg 23
[42] S. 3.4.6 see note 6, pg 24
[43] S. 3.4.7 see note 6, pg 24

report is made available to the public at a reasonable cost[44]. The project proponent is also required to inform the public of the availability of the DEIA report through advertisements in major Bahasa Malaysia and English newspapers. The advertisement should run on a weekly basis, for three consecutive weeks.[45]

3.4.3 Report Review

The review of a Preliminary EIA report is done internally by the DOE while an expert Review Panel is appointed to review the DEIA reports. The normal time frame allocated for the review is five weeks for a Preliminary EIA and twelve weeks for a DEIA.

Review of Preliminary EIA reports is carried out at the DOE states offices. The processing and procedure is headed by the State Director and assisted by Environmental Control Officers. The State Director is responsible for the approval or rejection of an EIA report. If necessary, "One Stop Agency" meetings will be held with other relevant agencies or departments.

The review of Preliminary EIA reports for activities involving more than one state and other activities that may be decided by the Director of Environment are carried out at the DOE headquarters in Putrajaya. The processing and approval procedure is headed by the Director of Assessment Division assisted by officers of the Division. The DOE aims to hold all assessment reports, both preliminary and detailed at the state offices in the future[46]. This will improve efficiency as officers in the DOE

[44] interview with Puan Zuhainim Abdul Ghafar, Environmental Control Officer, Department of Environment, 2 April 2008
[45] S. 3.4.7 see note 6, pg 24
[46] see note 44

headquarters are able to concentrate solely on policymaking. This will facilitate enforcement of projects easier as enforcement is done by officers in the state DOEs.

The review of DEIA reports is only carried out at DOE Headquarters. Only the Director-General has the authority to approve or reject any DEIA. The Director-General is assisted by the Director of Assessment Section. A panel of experts is normally formed to assess the DEIA. DEIA reports are displayed at the DOE state offices, public libraries and the relevant local authority office for public comments. The public is notified through the mass media and DOE homepage as to when and where the DEIA report is available for review and comments.[47]

The Review Panel is an independent body appointed by and responsible to the Director-General to review DEIA reports[48] and to formulate recommendations to project approving authorities on implementation of the project. The panel comprises independent members of relevant disciplines from different organisations such as universities and NGOs.[49] The Director-General is the Chairman of the Review Panel.[50] Appointment of members of the Review Panel is made on a project by project basis according to the environmental impacts and issues of the project concerned. The Secretariat of the Review Panel maintains a list of experts who may be called upon to sit as members of any Review Panel established. The EIA Handbook lists down the duties and responsibilities of the expert Review Panel.[51]

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[47] S. 4.3 see note 6, pg 27
[48] see note 6, pg 42
[49] The functions of the Review Panel are as follows:
(i) to review and confirm the Terms of Reference(TOR) for DEIA;
(ii) to review and evaluate DEIA reports; and
(iii) to make recommendations on the implementation of the project.
[50] S. 4.3 see note 6, pg 27
[51] The duties and responsibilities of the Review Panel:
1. To attend the Meeting of the expert Review Panel as scheduled;

If the need arises, a Panel of Experts is appointed to provide specialised technical or scientific advice to the Director-General on specific aspects of individual projects. Experts either as individuals or representatives of interest groups may be drawn from both the public and the private sectors.

By making copies of the DEIA report available in public places, this is an invitation for members of the public to comment on proposed projects that have been subjected to DEIA.

The Review Panel will take into account any relevant written comment received from the public in formulating its recommendations to the project approving authority. After the review process, the DEIA report will be updated with suggested improvements and if needed, or requested by the DOE or members of the Review Panel, further information will be furnished and appended to the DEIA report. The DEIA report will then be made available in the DOE library.

The Review Panel's role is only to advice the DOE in deciding whether or not the DEIA report should be approved. The DOE then will make the decision on the approval of the report by taking into consideration the recommendation made by the

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2. To assess the scope of study for specific issues related to the project based on the TOR as proposed by the project proponent and to give comments to ensure the comprehensiveness of the TOR;
3. To assess DEIA Report and other related reports and to provide assessment and inputs (specifically for issues within the respective expertise on the following matters:
   - baseline data with respect to its validity and comprehensiveness;
   - suitability of the model used as well as the assumptions and calibration carried out;
   - completeness of the assessment of impacts;
   - suitability of the assessment techniques;
   - capability of pollution control and mitigating measures; and
   - whether residual impacts are acceptable.
4. To provide written comments to the Department of Environment within the specified time period or not later than 3 days before the scheduled meeting of the expert Review Panel.

Review Panel. The final decision, on whether or not the project will be approved is not made by the DOE. This decision is to be made by the State Authorities.

3.5 EIA Procedure in Sarawak and Sabah

3.5.1 Evaluation Procedure for Department of Environment, Sarawak

For Preliminary EIAs, the evaluation procedure adopted by the DOE at the state level delegates to the State Director and his officers to approve the EIA reports or when deemed necessary, a "One Stop Agency" (OSA) meeting could also be convened. Assessment reports and comments on the EIA reports from other departments or agencies may be resorted to if needed. The public may be invited and involved in the OSA if necessary.[52]

3.5.2 Evaluation Procedure for Natural Resources and Environmental Board, Sarawak

The policy and procedure are outlined in the Sarawak EIA Handbook. Similar to the federal legislation, there are two types of assessment. There is no mention of public participation in the provisions outlining the requirements for a Preliminary EIA report. The procedure for the DEIA report does not provide a mandatory requirement for any public participation. The right to involve the public is on the initiative of the developer.[53]

The NREB has received about 800 EIAs mainly on agriculture,(oil palm plantations), realty and infrastructure development, forest harvesting and replanting, aquaculture

[52] Emang, Justine Jok Jau, *Public Participation in EIA Process in Sarawak: Any Room For Improvement?*, paper presented during the Fourth Sabah-Sarawak Environmental Convention 2006, (Sarawak: National Resources and Environment Board,2006), pg 4
[53] see note 52

(prawn and fish farming) and landfill establishments. The bulk of the EIAs are for oil palm plantation development projects, which amount for 48% of the reports.[54]

3.5.3 Evaluation Procedure for Environment Protection Department, Sabah

There are some differences in the EIA procedure conducted by the Sabah EPD from the DOE. Unlike other states, Sabah has introduced a new system of environmental reporting through EPE 2005 by having two categories of environmental reporting in the state, namely, proposal for mitigation measures (PMM) or environmental impact assessment report (EIA)[55]. In comparison to NREB, the evaluation procedure by EPD is more transparent as it enforces more obligations on project proponents and requires mandatory public participation.

The Handbook on Environmental Impact Assessment in Sabah (Sabah EIA Handbook) was prepared in accordance to Section 15 of EPE 2002. The principles, requirements, procedure and guidelines for the preparation of a PMM or an EIA can be found in the Sabah EIA Handbook. Submission of an EIA report is a legal requirement for all prescribed activities listed under Second Schedule[56].

3.5.3.1 Proposal for Mitigation Measures (PMM)

The prescribed activities requiring a PMM are normally of low magnitude in terms of area and sensitivity. The impacts are known or can be predicted without the need for a detailed study and the mitigation measures and monitoring mechanism are already in place.

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[54] See note 52
[55] Malaysia, Environment Protection Department, *Environmental Impact Assessment Pertaining to the Palm Oil Industry – Environment Protection Enactment 2002* presented during EMPA Conference 2008 held in Sandakan, Sabah, 14 Mac 2008 (Sabah:Environment Protection Department, 2008)
[56] S. 2.0, Malaysia, Environment Protection Department, *EIA Handbook on Environmental Impact Assessment in Sabah*, 2nd ed., (Sabah: Environment Protection Department, 2005)

3.5.6.2 Environmental Impact Assessment (EIA)

The Sabah EIA Handbook defines an EIA report as "a report or series of reports which provide a detailed assessment in quantitative terms wherever possible, and in qualitative terms of the likely environmental impacts of a development activity and the measures required to prevent, mitigate or abate any adverse environmental impacts or to protect the environment".

The prescribed activities requiring an EIA are of high magnitude in terms of area and sensitivity and require a DEIA study to predict the potential and to formulate practical, realistic and effective mitigation measures and monitoring programmes[57].

The Sabah EIA Handbook provides for two types of EIA reports, a normal EIA and a special EIA[58]. Normal EIAs are usually conducted for projects where the environmental impacts are localised, and the local sensitivities are not significantly affected. Special EIAs are conducted for projects having special magnitude and sensitivity regarding the environmental impacts which may extend beyond the geographical boundaries of the project site and/or can adversely affects the welfare of local communities. A comprehensive and detailed assessment of the primary and key environmental issues and impacts are required to evaluate the significance of the environmental impacts[59], and to formulate appropriate mitigation measures and monitoring programme[60].

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[57] S. 2.3, see note 56
[58] S. 2.2.1, see note 56
[59] The main criteria used to determine the type of environmental impact assessment study to be implemented are:
I. extent of focus of primary issues of concern;
II. environmental sensitivity of location;
III. magnitude of potential impacts
IV. geographical extent of potential impacts
V. significance to government policies and guidelines; and
VI. local sensitivities such as aesthetic or cultural concern.
[60] S. 2.2.1, see note 56

The assessment procedure for both categories of EIAs follows the same general format stipulated in the Sabah EIA Handbook. The rationale for the common approach for both EIAs is explained in Section 2.2.2 of the Sabah EIA Handbook, "...The convergence of the procedure introduces flexibility into the assessment process, and removes the possible need for some project proponents to submit both a Normal EIA and a Special EIA report."

While using different terminology, in essence a Normal EIA is a Preliminary EIA. Similarly, a Special EIA is the EPD equivalent of a DEIA. The procedural requirements under the Sabah EIA Handbook are very similar to the procedural requirements of the DOE's EIA Handbook. However, in certain areas, the Sabah EIA Handbook is of a higher requirement. This could be due to the fact that in comparison to the other two Handbooks, the Sabah EIA Handbook was prepared under the EPO 2005 which was enacted very recently and contains some provisions that are not available in the legislation governing the other states.

The Sabah EIA Handbook provides for public hearing to be conducted for Special EIAs. This provides a two-stage opportunity for the public to submit views and comments.

At the first stage, the public is given the opportunity to view the TOR of the Special EIA and a period of 14 days shall be given to the public to submit their views and comments on environmental issues and concerns that they feel should be addressed in the EIA study. At the second stage during the review of Special EIA reports, a period of 30 days is given to the public to comment on the validity and relevance of

the assessments, proposed measures and monitoring programme contained in the report.[61]:

Similar to the requirement of the DOE, EPD requires the public hearing to be announced in the major local newspapers in at least two major languages, namely Bahasa Malaysia and English. The project proponent shall bear the cost for the public announcement. A minimum size of ¼ page is required for the notification.

The Sabah EIA Handbook requires copies of the TOR and the Special EIA to be made available at the EPD's office and homepage; main branches of the state library, and the environmental consultant's office. Another requirement is for all written responses to the views and comments by the public are made available at the EPD's office and website. This allows members of the public more access to the information related to the prescribed activity[62].

Unlike the position in Sarawak where there is no mandatory requirement for EIA, in Sabah, public participation is mandatory at various stages of the process. Public participation is required to be conducted in the form of public hearing during the preparation the TOR for Special EIA[63]. Some TOR may require the consultant to undertake further additional public hearing activities such as public forum. A public hearing shall also be conducted for Special EIA reports[64]

[61] S. 2.2.1, see note 56
[62] Interview conducted with En. Vitalis J Moduying, Environmental Control Officer, Sabah Environment Protection Department, 24 Mar 2008
[63] S. 2.2.3, see note 56
[64] S. 4.7.1, see note 56

3.6 Conclusion

From the review of existing EIA procedure in Malaysia, it can be seen that there are some elements of public participation provided in the Handbook. However, there is no in depth explanation on how this public participation is to be conducted. The EIA Handbook provides guidelines on recommended practice, but the consultants are not required to follow these recommendations. The guidelines grant the consultant the freedom to decide on the best form of public participation to be applied. While this flexibility has the advantage of allowing the consultant to choose the most suitable form of public participation in relation to a particular prescribed activity, it fails to set a minimum standard for the consultants to comply with. This leaves it to the consultant's discretion and professional ethics to decide on how to proceed with the implementation of public participation. This is the position provided by both the DOE and Sabah EPD. In Sarawak, there is a marked difference in their position as the Sarawak laws make no mention of the requirement for public participation. While public participation is not mandatory in that State, it is stated in the Handbook that the public can be involved at the project proponent's initiative. Based on this provision, it can be said that, while public participation is not a requirement in Sarawak, the provision can be interpreted to mean that the government, while not imposing the need for public participation, does encourage project proponents to take steps to involve the public in the decision-making process. On the other hand, the absence of such requirement can also be interpreted as an intentional attempt by the State Authorities to exclude the public from the EIA process. It would be much better to do away with the uncertainty by amending the provisions to make public participation mandatory.

By the review conducted on the three EIA laws, it can be seen that on the majority of points, all three laws are very similar, except for few variations which were adopted by the State Authorities of Sabah and Sarawak. It is the author's contention that there is no need for separate laws governing the EIA process. It is preferable to have one standardised law that is applicable to the whole of Malaysia as it will facilitate enforcement and reduce or prevent any confusion. It is more convenient to implement, monitor and improve one law, rather than having three separate laws governing the same process. It is the author's contention that a standardised nationally applicable law is the solution to questions on how to reconcile Federal and State laws, preventing the overlapping of jurisdiction between them. Having one law in place does not lead to the curtailing of the State Authorities' power in the decision making process but merely to facilitate the proper implementation and enforcement of the EIA process in Malaysia.

It can be concluded that, the way the EIA laws are worded lacks the profundity needed to emphasise the need for public participation in EIA. The next chapter will examine whether the requirement for public participation stated in the guidelines are transmitted to actual implementation. The discussion in the next chapter will focus on the reality of public participation in Malaysia by referring to case studies and opinions by various stakeholders. Hopefully, the discussion will provide the answer to whether there exist adequate public participation in the EIA process in Malaysia.

Chapter 4: public participation in the Malaysian EIA process

4.1 Introduction

This chapter will elaborate on public participation in the EIA process. It will discuss the existing practice of public participation as well as the issues and problems relating to the implementation and enforcement of public participation in the EIA process in Malaysia. The adequacy and efficacy of public participation will be studied by reviewing the avenues available for public participation and the actual degree of public participation that occurs in Malaysia. This chapter will also look at the extent the Malaysian courts have allowed concerned citizens or aggrieved groups of citizens to have access to bring an action in court. Besides that, by looking at the same issues through the perspective of various interested parties, some suggestions and recommendations that could further improve the implementation and enforcement of public participation in the EIA process are provided.

4.2 Public participation

The practice of public participation is a growing part of environmental decision-making. It emerged during the Earth Summit in 1992, where both Principle 10 of Rio Declaration[65] and Agenda 21 called for increased public participation in environmental decision-making.

[65] Principle 10 of Rio Declaration reads as follows:
Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

The sentiment of Principle 10 of the Rio Declaration was echoed in Chapter 23 of Agenda 21 which provides for the need of States to grant access to information relevant to the environment and development to all individuals, groups and organisations interested in such information[66].

Environmental decision-making refers to any process of decision-making where significant environmental impacts are a possibility and includes law making, planning, strategic planning resource management planning, licensing of industry and environmental impact assessment.[67]

Public participation is also known as public involvement. The level at which the public becomes involved varies with the relevant legislation, and the attitude of the other stakeholders[68]. If the legislation puts a high level of priority of public participation, such as making it 'mandatory' or 'a requirement', the level of public participation will be high. If the legislation is worded with terms such as 'optional' or 'recommended' or 'at the discretion', the level of public participation is low and will not be as effective as mandatory requirement for public participation.

4.3 Public Participation in the EIA Process

[66] The Preamble of Chapter 23 on Strengthening the Role of Major Groups reads as follows:
One of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decision-making. Furthermore, in the more specific context of environment and development, the need for new forms of participation has emerged. This includes the need of individuals, groups and organisations to participate in environmental impact assessment procedures and to know about and participate in decisions, particularly those which potentially affect the communities in which they live and work. Individuals, groups and organisations should have access to information relevant to environment and development held by national authorities, including information on products and activities that have or are likely to have a significant impact on the environment, and information on environmental protection measures.

[67] Ewing, Michael. K, *Public Participation In Environmental Decision Making,* <http://www.gdrc.org/decision/participation-edm.html> , retrieved on 11 Mar 2008

[68] See note 67

Decision-making in relation to EIA make an interesting discussion as unlike other environmental activities, decision-making on EIA requires an element of public participation. Decisions cannot be made solely on the discretion of the authorities. The feedback of members of the public should also be taken into consideration in the decision-making process.

Public participation is essential in the EIA process as it allows for the involvement of all concerned stakeholders in the decision-making process. The list of stakeholders involves the project proponent, the government, the NGOs as well as members of the public. Public participation makes the decision making process fairer and more democratic and at the same time ensures more transparency which therefore makes the process less amenable to corrupt influences.[69] It engages the parties in a constructive process, ensuring that all the relevant considerations that need to be factored into the decision have been brought out to the surface and will be considered before a final decision is made.

The attitudes of other stakeholders also play a part in determining the role public participation plays in the decision-making of an EIA. If other stakeholders show cooperation and take positive steps to encourage public participation, such as by allowing convenient access to members of public to participate, and granting full disclosure of information needed for people to make informed comments and feedback, only then can public participation in the true sense of the word be able to take place. It is imperative to remember that for public participation to be effective at any level, it requires the public to be well informed and kept aware of the possibility

[69] Kanniah, Rajeswari, *An Analysis of the Laws Relating to EIA in Malaysia with Specific Reference to Federal- State Jurisdiction*, LLM dissertation, Law Faculty, University of Malaya, (Kuala Lumpur:1999)

of participation. Another factor that determines the level of participation by the public is the granting of the right for them to sue in the event that there is disagreement or dissatisfaction with decisions that were made pertaining to EIA. The public should not be denied the access to justice in the event that they feel the need to sue or appeal against any decision made that concerns them.

Most countries implementing the EIA system have mandated some level of public participation in the EIA process. The level of public participation can be chosen by states according to the state's suitability, but it is preferable for public participation to commence at the early stages. However, if a country has specific laws governing the procedure for EIA, such laws should have requirement for mandatory public participation[70]. In South Asia, India and Nepal are among the countries that have made public review mandatory in their system.[71]

Public participation being a central element in the EIA process, both how it is formally entrenched in statutory provisions and how it is carried out in practice has considerable significance for how effectively the EIA process works[72]. Three common forms of public participation in relation to EIA has been identified and distinguished as[73]:

Legitimatising participation which occurs when the sole purpose of the participatory process is to legitimise the process, but it does not have any influence on the content of the EIA reports.

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[70] see note 4, pg 5
[71] see note 52
[72] Staerdahl, Jens, et al, *Environmental Impact Assesment in Malaysia, South Africa, Thailand, and Denmark: Background, layout, context, public participation and environmental scope,* The Journal of Transdisciplinary Environmental Studies vol 3. no. 1, 2004, <http://www.journal-tes.dk/>, pg 3, 12 Dec 2007
[73] see note 69.

Instrumental participation applies in situations where the public is utilised as information providers to improve the quality of EIA reports but the information provided is not given priority and at times are disregarded in the decision making process.

Democratic participation is when the views and the priorities of the public are taken into account in the decision-making process.

In the case of *Berkley v Secretary of State for Environment*[74], the court held that in a decision-making pertaining to an EIA, the public should have the right to be involved. Lord Hoffman stressed that the directly enforceable right of the citizen under the UK Directive on EIA[75] is not merely a right to fully informed decision on the substantive issue. It must have been adopted on an appropriate basis and that requires the inclusive and democratic procedure prescribed by the Directive in which the public, however misguided or wrongheaded its views, is given an opportunity to express its opinion on the environmental issues. The decision carries the connotation that proper public participation is imperative in cases where development, even at the local level, is to be proposed and carried out by a body of the people's representatives.

[74] [2000] 3 WLR 420
[75] EIA Directive 97/11/EC

An effective EIA process employs two types of public participation: public scoping of the EIA and public review of the EIA documents. Both of these public participation procedures are equally important[76].

Public scoping means public identification of the impacts and alternatives to be studied in the EIA[77]. Public review of the EIA documents and due account of submitted comments is the necessary prerequisite for the accountability of the whole process. Public participation here ensures that all significant issues are identified, local knowledge about the idea is incorporated, and alternatives are identified and considered[78].

A public scoping exercise should include an invitation to participate (including information on how, when and where), brief description of the EIA process and opportunities for public participation, description and objectives of the proposal, and a description of the known potential impacts. A public notice of the exercise should then be issued[79].

The findings from the scoping exercise can be used by the EIA consultants to determine the community's concerns and reaction to the proposed project, the

[76] Bolshakova, Marianna, Jiri Dusik, Magda Tothnagy, Chapter 2: Public Participation in Environmental Decisionmaking, Doors To Democracy, <http://www.rec.org/REC/Publications/PPDoors/EUROPE/PP.html>, retrieved on 15 Dec 2007

[77] The principal objectives of public scoping are

- Identify public concerns and the expertise needed to investigate the same;
- Identify alternatives to be examined;
- Identify significant issues that need to be analysed, eliminating the unimportant;
- Identify problems and potential solution early in the process;
- Identify problems with the participation process and address the same;
- Ensure that both the positive and negative aspects of the proposal are identified and studied; and
- Identify potential mitigation measures.

[78] see note 67

[79] see note 67

reasons for such reaction, possible adverse impacts and mitigation steps that can be taken to minimise such impacts.

Public review is the other form of public participation available in the EIA process. Members of the public should be given the opportunity to have access to the EIA report. It must be ensured that the EIA report contains all the necessary information needed for an informed decision to be made. Involvement of the public at this stage can ensure the quality and comprehensiveness of the assessment and help reduce any bias in the analysis[80].

To allow public review to proceed smoothly, the EIA report should be made widely available to members of the public. The EIA report should be made accessible via electronic transmission, as well as available in public places such as libraries, site offices, public displays, information repositories[81], and presentations. Methods of public feedback should be widely publicised so as to encourage participation. Feedback should be welcomed by letters, emails, phone calls, interactive comments on interactive websites maintained by the EIA approving authorities[82].

To allow for sufficient feedback, the report should be made available for a reasonable time frame, allowing the public opportunity to fully understand the document enabling constructive feedback.

Another problem faced in many EIA programs is the fact that public participation occurs too late to take advantage fully of the information that the public can

[80] S. 3.4.4, see note 6, pg 23
[81] S. 3.4.4 see note 6, pg 23
[82] see note 67

contribute concerning values, impacts and alternative projects[83]. Therefore, stakeholders should take measures to ensure that public participation take place at an early stage of planning to allow a maximum level of benefit is gained from the public feedback.

Public participation should not end at the public review stage. The feedback from the public should be given consideration in making the decision to approve or reject the EIA report. Local representatives and environmental NGOs should also be welcomed to play a role in the follow-up and monitoring processes. This would help in early identification of problems and can foster a sense of public partnership[84].

4.4 Public participation in the Malaysian EIA Process

The need for public participation in EIA is acknowledged in the EIA Handbook[85]. It provides for three avenues for public participation in the EIA process:

i) during the Preliminary Assessment stage, the project proponent can obtain public participation through the means specified in section 1.4.5 of the EIA Handbook;

ii) during the Detailed Assessment stage, members of the public may submit comments and enquiries after the DEIA Report has been made public; and

iii) after the Director-General has made a decision, an appeal can be filed under section 35(e) of the EQA 1974 by aggrieved members of the public who have an interest to protect.

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[83] see note 67
[84] see note 67
[85] S 1.6.1(d) of the EIA Handbook expresses the role of the public in the EIA process as:
The interaction between people and their environment is fundamental to the concept of impact. Some form of public participation in Environmental Impact Assessment is the most reliable way of predicting the impact of a project on people. A responsible, interested and participating public is important in environmental management.

4.4.1 Public Participation at the Preliminary Assessment Stage

By referring to the EIA Handbook, public participation is needed at the preliminary stage of an EIA. Section 2.3.4 of the Handbook says that during the preliminary assessment stage some form of public participation is 'essential' while Section 1.5.3 in explaining the requirements for a preliminary assessment mentions that 'some form of public participation is required'.

A valid assessment of the impact of a project on the community cannot be made without some form of public participation. Public participation in the EIA procedure can be an aid to project planning as it enables the project proponent to[86]

(i) monitor community needs and ensure that the direction or emphasis of the project continues to satisfy those needs;

(ii) identify both material and psychological impacts of the projects on the community;

(iii) measure and promote the social acceptance of the project in the community and avoid costly modifications or abandonment of the project at a later stage;

(iv) monitor changing environmental values in the community; and

(iii) obtain additional environmental information known to the local population.

In deciding which form of public participation to be conducted, Section 1.4.5 of the EIA Handbook states that public participation must be carefully planned to ensure that the maximum benefit is obtained from it. It is left to the project proponent to

[86] S. 1.4.5 see note 6, pg 6

decide the most suitable form of public participation to be conducted. Some forms recommended in the EIA Handbook are[87]:

(i) Public opinion sampling: A method that can be used to reach a large or diverse community but may not be suitable for dealing with complex issues. Public opinion surveys must be carefully planned and managed to obtain valid results.

(ii) Public meetings or workshops: It can be used to obtain public opinion on a wide range of issues arising from a project proposal. People willing to attend meetings or workshops usually have a genuine interest but some may not like to express their opinion in public.

(iii) Regular meetings with citizens committee: Can be useful during the planning and development of large projects over an extended period provided that the committee is truly representative of the community affected by the project.

4.4.2 Public Participation at the Detailed Assessment Stage

According to the EIA Handbook, public participation must be included in the detailed assessment to benefit the planning of the project.[88] The EIA Handbook says that the need for public participation should be discussed during the formulation of the TOR for the DEIA. The EIA Handbook recommends certain suitable forms of public participation for this stage which are:

(i) Citizens Committees,

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[87] S 2.3.4 see note 6, pg 19

[88] see note 6, S 3.4.4 states that public participation benefits the project planning by any one of the following:

(i) Clarify the nature of impacts or provide a better estimate to the magnitude of impacts.
(ii) Provide project planners with a better understanding of community aspirations and needs.
(iii) Allay fears in the community or improve the social acceptability of the project.
(iv) Provide additional environmental information to project planners.

(ii) Public Meetings and Workshops, and

(iii) Public Opinion Sampling.

While the methods are the same as the ones during the preliminary assessment, the difference is that during the preliminary stage members of the public do not have access to a copy of the EIA report nor do they have a right to comment on it. At the preliminary stage, the project proponent is only seeking the public opinion on the proposed project.

In 1996, to improve the effectiveness of EIA procedures, DOE introduced some changes to the drafting of the TOR by making it a requirement for all DEIA reports to be displayed for public comments. The DOE believed that this would promote the exchange of views at an early stage of the EIA process and these issues could then be addressed in the DEIA Report.[89]

The DEIA report should be made available to the public and it is the responsibility of the project proponent to provide and distribute sufficient copies to meet the combined requirements of the Review Panel, the approving authority, relevant environment-related agencies and the public.[90] A charge to cover printing and postage costs can be made for copies of the DEIA report requested by the public.

The public must be notified as to when and where the DEIA Reports are available for review and comments. Notification shall be done through the mass media and website of DOE[91]. A sample of a notification posted on the DOE's website is

[89] see note 5, pg cxl
[90] S. 3.4.7 see note 6 pg 24
[91] S. 4.3 see note 6 pg 28

enclosed here as **Appendix 7**. A sample of the advertisement in the newspaper is reproduced as **Appendix 8**[92].

In March 2007, as a step to further improve the EIA procedure, DOE decided that from April 2007, the executive summary of all EIA Reports being processed shall be displayed on DOE's website[93]. An example of an executive summary displayed on the website is reproduced as Appendix 9[94]. This step was taken to allow the public to have access to information relating to proposed projects without the need for them to purchase the EIA report. The executive summary is a document summary of the EIA report that is prepared in non-technical language. This requirement was also introduced by EPD in Sabah as a measure to encourage public participation among citizens who get discouraged by the lengthy and technical nature of the EIA report[95].

4.4.2.1 Public Participation in Sarawak EIA Process

The requirement for public participation is only enforceable in Peninsular Malaysia and Sabah. As discussed in Chapter 2 and 3 earlier, Sarawak EIA laws have no provision for mandatory public participation. While there is no mention of public participation in the provisions outlining the requirements for a Preliminary EIA report, the procedure for DEIA reports does mention that the right to public involvement is "on the initiative of the project proponent".[96] It is clear from the language of the

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[92] S. 3.4.7 see note 6, pg 24: The advertisement should state
(i) that a DEIA report has been received for review;
(ii) the nature and location of the project;
(iii) where copies of the report are available for review and comments and where they can be obtained and the cost of each copy;
(iii) the duration of the display for a period of 30 days; and
(iv) that any representation or comments by the public or concerned environmental related agencies, on the report should be made in writing and forwarded to the Secretariat of Review Panel not more than forty five (45) days from the date of the first notice or within the time specified in the advertisement.

[93] Department of Environment website, <http://www.doe.gov.my>, retrieved on 11 Feb 2008

[94] Department of Environment website, <http://www.doe.gov.my/dmdocuments/EIA/ExecutiveSummary-LahadDatuEnergy.pdf> , retrieved on 9 Apr 2008

[95] See note 62

[96] See note 69

Sarawak EIA Handbook that public participation in the EIA process is a discretionary right of the project proponent. This can be interpreted in two ways. It could be said that the provision keeps the position on public participation flexible in that it gives the opportunity to project proponents to conduct public participation but another interpretation would say that such provisions would hamper attempts by members of the public or NGOs to gain access into the EIA process in Sarawak. Reference to decided case law supports the second argument. In the case of *Kajing Tubek & Ors v Ekran Bhd & Ors*[97], the plaintiffs contended that they had been conferred the right to comment on the Bakun EIA Report by the EQA 1974 and the approval of the said EIA Report under the Sarawak EIA laws which restricts public participation was a breach of natural justice. On the issue of *locus standi*, the High Court allowed the plaintiffs' action but on appeal, the Court of Appeal took a more restricted view and denied them *locus standi* to bring the matter to court.

4.4.3 Right to appeal under EQA 1974

Section 35(1)(e) of the EQA 1974 says that any person who is aggrieved by any decision of the Director-General under subsection (3) or (4) of section 34A may within such time and in such manner as may be prescribed, appeal to the Appeal Board. The appeal must be within 30 days of the decision. Allowing access for the public to appeal the decision is a positive step provided only by few countries.

4.5 Access to environmental justice

In many legal systems, including Malaysia, judicial recourse is available only to persons who can demonstrate a sufficient connection with or interest in the subject

[97] [1996] 2 MLJ 388

matter in dispute[98]. This right to sue is also known as *locus standi*. In environmental matters, a relatively large number of people can be affected, but they will remain silent sufferers if they have no capacity to take action. This kind of situation can be averted and justice can be brought to their doorsteps if the requirement of *local standi* is relaxed[99].

Different countries hold different positions when it comes to *locus standi* concerning environmental matters. In determining issues of standing of environmental NGOs, British courts take into consideration various factors such as their long standing association with the subject matter, status as a consultee during the planning process, local interest, financial investments and the general importance of the subject matter. Contrary to this, the courts in the United States strictly adhere to *locus standi*. In view of this, provisions permitting citizen suits were incorporated when Congress found that public participation was necessary for enforcement of environmental laws[100].

In India, requirement for *locus standi* was relaxed in environmental pollution matters where public interest is considered to be involved. This gave rise to the development of public interest litigations in India. Public interest litigations are easily instituted, simply by writing a letter to the court. The court registers a case based on that letter and issues summons to relevant parties, including government departments. Public interest litigation has played an important role in the development of environmental

[98] Tan, Alan K.J, Preliminary Assessment of Malaysia's Environmental Law, Asia Pacific Centre for Environment Law, <http://www.sunsite.nus.edu.sg/apcel/dbase/malaysia/reportma.html#sec4>, retrieved on 1 Mac 2008
[99] See note 4,pg 23
[100] See note 4, pg 21

law in India as well as being an avenue to ensure the availability of environmental justice to the people of India[101].

The Malaysian courts apply a strict interpretation on who has standing to bring a court action concerning EIA. This position can be seen from the decision of *Kajing Tubek & Ors v Ketua Pengarah Jabatan Alam Sekitar & Anor*[102], where the plaintiffs were natives from the Belaga district in Sarawak whose ancestors have owned native land, upon which they were living on since time immemorial. A project to build the Bakun hydro electric dam was approved in 1986 would cause their land besides the homes of some ten thousand other occupants to be flooded. The plaintiffs brought an action in the High Court to oppose this project. The case was brought to the Court of Appeal. Among the issue raised was whether the plaintiffs had *locus standi* to bring the action. In deciding that they had no standing, the court had this to say:

> ...In the event, the respondents lacked substantive *locus standi*, and the relief sought should have been denied because (a) the respondents were, in substance, attempting to enforce a penal sanction. This was a matter entirely reserved by the Federal Constitution to the Attorney General of Malaysia in whom resided the unquestionable discretion whether to institute criminal proceedings; (b) the complaints advanced by the respondents amounted to deprivation of their lives under art. 5 (1) of the Federal Constitution. Since such deprivation was in accordance with the law, i.e. the Land Code (Sarawak Cap.81), they had on the totality of the evidence suffered no injury and there was thus no necessity for a remedy; (c) there were persons, apart from the

[101] See note 4, pg 22
[102] [1997] 3 MLJ 23

respondents, who were adversely affected by the project. There was no special injury suffered by the respondents over and above the injury common to others. The action commenced by the respondents was not representative in character and the other affected persons were not before the court; and (d) the judge did not take into account relevant considerations when deciding to grant declaratory relief. In particular he did not have sufficient regard to public interest. Additionally, he did not consider the interest of justice from the point of view of both the appellants and the respondents.

The court had a more liberal view with respect to the mandatory duty to make the EIA report available for public comments as decided in *Abdul Razak Ahmad* v. *Ketua Pengarah Kementerian Sains, Teknologi dan Alam Sekitar.*[103] In that case, the court held that as a citizen of Malaysia and a resident of the city of Johor Baru, the plaintiff had a right to have the EIA report made available to him, in order to determine to what extent he and other residents of Johor Baru would be affected by the "Floating City" project. Therefore, the plaintiff had an interest to protect in this case. By that decision, the court recognised the *locus standi* of the plaintiff.

The High Court took the similar view in the case of *Kajing Tubek & Ors* v. *Ekran Bhd. & Ors,*[104] saying that it was the right of the plaintiff to take a copy of the EIA report and therefore he is entitled to take it. On appeal, the Court of Appeal recognised the right to get a copy of the EIA report on demand and payment of required fee if the right to do so is stated in the law. The court decided that the law applicable in this

[103] [1994] 2 CLJ 363
[104] [1996] 2 MLJ 388

case is the law of Sarawak, which did not provide for public participation in the EIA process. On that ground, the claimant is not entitled to a copy of the report.

Due to poor enforcement of environmental law, the condition of the Malaysian environment is fast deteriorating and it has been suggested by Haseeb that the relaxation of the requirement of *locus standi* and the encouraging of public interest litigation should be considered by the Malaysian courts. This will help in ensuring environmental justice becomes available to all Malaysians and can lead to better enforcement and management of the environment[105].

4.6 Public Participation Issues in Malaysia

The main issue often raised when discussing public participation in the Malaysian EIA process is the adequacy and enforceability of it. An EIA process without public participation is unable to provide a thoroughly legitimate assessment on the particular project as it lacks one essential component, the input of the local community.

While the EIA Handbook expressly states the need for some form of public participation in preparing an EIA report[106], the provision is very general and provides no details on the minimum standard of public participation that is needed. Based on a research that was carried out by Boyle in 1990-91 in Thailand, Indonesia and Malaysia, the public are effectively excluded from project planning and decision making and environmental agencies have difficulty in enforcing EIA requirements[107].

[105] See note 4,pg 23
[106] S. 1.4.5, see note 6, pg 6
[107] See note 52

From the literature review conducted and supported by the feedback obtained through interviews with stakeholders, the general consensus is that the element of public participation in the EIA process does exist and is implemented in Malaysia but it is inadequate and fails to enable the public to play a meaningful role in the process. This could be due to several reasons, the weak legal framework which fails to expressly state the need for in depth public participation, or the lack of enforcement by the authorities in ensuring that public participation is conducted at the early stages of project planning thus enabling it to play an effective role, or the lack of understanding and awareness among project proponents who fail or refuse to see the role EIA can play as a planning tool. The issues related to public participation are discussed below.

4.6.1 Ambiguous Provisions on Public Participation

The laws governing EIA has been studied in detail in Chapter 2. It is evident that there are no provisions concerning public participation in any of the main EIA legislation. The requirement for public participation is only to be found in the EIA Handbook. Even then, there is little mention on how public participation should be conducted. The EIA Handbook only provides general recommendations on the form of public participation to be conducted. The situation in Sarawak is further less conducive as the state laws have no mention for public participation at the preliminary assessment stage and at the detailed assessment stage, only recommends public participation to be conducted and this is to be at the initiative of the project proponent.

4.6.2 Quality of EIA Reports and EIA Study Conducted

Some consultants conduct public participation in an 'on the surface' manner. It is conducted in a way that no beneficial feedback from the local community could be gained. Public participation was conducted merely to satisfy the requirements stated in the guidelines to enable to project proponent to obtain the approval for the EIA Report[108].

There has been complaints from both DOE and members of the Review Panel of the low quality of the EIA Reports that are submitted by the consultants. Sometimes, the standards of research is very poor, with consultants preferring to find the easiest option for obtaining project approval, such as suggesting certain mitigating factors while failing to bring attention to other viable options. There have been instances where reports are submitted incomplete without the necessary information, or inaccurate or irrelevant data is included in the report. There have been situations where there are discrepancies in the content of the report, where conflicting information is provided in different parts of the report. This will result in a delay in coming to a decision as the DOE will have to request for the 'missing' information, seek further explanation on unclear issues or insist that the consultant perform further studies for the report.

As a preventive step, the DOE has introduced a mandatory registration system for EIA consultants. Only registered consultants may be appointed by project proponents to prepare EIA studies. This registration system allows the DOE to monitor the quality of work of the consultants. Special attention will be paid to the manner the consultants conduct their studies, the accuracy of the results of the studies and the quality of the EIA reports prepared. Consultants who do not live up to

[108] A Haze of Secrecy – Access to Environmental Information in Malaysia, ARTICLE 19 and Centre for Independent Journalism, 2007, pg 42

the standards will be blacklisted and prevented from conducting future EIAs. The list of registered consultants is available on the DOE website[109].

4.6.3 Appointment of Consultants

The appointment process of the consultant raises questions of conflict of interest or bias. As consultants are appointed by the project proponent, some parties question the impartiality of the EIA report. Some question the possibility of an unbiased report as the consultant is hired to prepare the report by the party who stands to benefit the most from the project being approved[110].

When directed this question, the consultants spoken to all feel that this problem does not arise when the consultant conducts work in a professional and responsible manner. In addressing this issue, Ms. Lina Chan admitted that in preparing the report, consultants do aim to please clients but they also have a responsibility in preparing a truthful and accurate report. Upon conducting the study, if the conclusion is that the project is not viable or not suitable for the site chosen, the consultants will advise the proponent accordingly. A consultant's duty is to protect the client's interest and sometimes this would mean advising them not to proceed with the project or to find another suitable site. It is not beneficial to either the proponent or the consultant to proceed with an unsuitable project at an early stage only for the proponent to be told to abandon the project at a later stage when the adverse impacts are later discovered[111].

[109] see Department of Environment website, <http://www.doe.gov.my/dmdocuments/EIA/EIA%20CONSULTANTS%201%20st%20BATCH(2).pdf> retrieved on 15 Apr 2008
[110] See note 108, pg 45
[111] Interview with Ms Lina Chan, EIA Consultant, Chemsains Konsultant Sdn Bhd, 7 Apr 2008

Another consultant refutes the suggestion that the consultants' hands are tied and they are bound to comply with the proponent's demands. There is little to be gained by doing so as the consultants who are dishonest risk lowering their credibility and ruining their professional reputation. As consultants are professionals subject to professional ethics, they have the responsibility to prepare an accurate assessment based on the study conducted. According to her, most proponents understand this and respect the consultant's opinion but for those who do not, she suggests that attention should be paid to the issue of educating proponents on the true reasons an EIA should be conducted[112].

Another proposed solution to questions of partiality of EIA reports is for the DOE to select the consultants to prepare the EIA report from the list of registered consultants while the cost is still to be borne by the project proponent. By doing so, there will be no question of biasness. This suggestion is still being considered and discussed among the stakeholders who while appreciating the intention feels that implementation will need careful planning in determining the selection process as not all consultant firms are able to conduct studies in all prescribed activities stated in EQO 1987. Some consultants specialise in certain activities only while others are more advanced and can contribute in more fields.

4.6.4 Weaknesses in the Procedural Requirements

The EIA Guidelines provide for public notification upon the event that consultation is being undertaken. DOE usually notifies the public or affected communities by advertising for comments in local newspapers and by posting a notice on their website showing the status of a DEIA. It has been argued that the manner in which

[112] interview with Raja Nur Ashikin Raja Zainal, EIA Consultant, ERE Consulting Group, 12 Apr 2008

the EIA consultation process is publicised is open to manipulation. There have been cases such as the Broga incinerator project, where the preliminary EIA report was widely publicised in the mass media but the DEIA was publicised only in English and Malay language newspapers, and not in Chinese language newspapers. This could be interpreted as a step to discourage public participation, as the affected community is largely Chinese speaking[113].

Limited access to the EIA reports is also a common complaint. While the EIA Guidelines require public access to the report, the report is often made available only at two DOE offices, the central office and the office nearest to the proposed project site. Such limited access could prevent NGOs or interested individuals from having easy access to the documents. There have been complaints that the EIA reports are mostly available in urban locations which are not accessible to the local communities most affected by the proposed projects[114]. In the case of the Sungai Selangor Dam EIA report, the RIA report was made available at the DOE headquarters, all DOE state offices, the Selangor Public Library and the Hulu Selangor District Council. There were many complaints from members of the public that the report should have been made more accessible. The Director General acknowledged that such places might not be accessible to some people and pledged to correct the situation[115]. Another hindering factor from public access is the excessively high cost for obtaining a copy of the report. For instance, the DEIA report for the Sungai Selangor and Kelau dam projects were priced at nearly one thousand ringgit (RM1,000.00) per copy. By charging exorbitantly, the DOE has put the report beyond the financial capacity of many interested parties.

[113] See note 108, pg 45
[114] see note 5, pg cxliiii
[115] see note 114

Besides physical access to the DEIA, the fact that it is often published solely in English also prevents interested parties from having informed access to the report. Only the Executive Summary is translated into Malay. In most cases, the issues covered in the DEIA is absent from the Executive Summary. It is rarely that translations of the report is available in other languages. This is a problem when the affected communities consists of people who speak other languages. Besides being in English, the report is often written in a technical way. Some individuals may face difficulty in understanding the technical terms used precluding them from participating in the public consultation process.

The EIA Guidelines require that the DEIA be made available for public comment. The DOE will exhibit the DEIA in its offices for a period of 30 days and allows a further 15 days for public comment. The timeframe for the public to submit comments is too short. Due to the length and technical nature of the report, reading and understanding the document is time consuming. The short amount of time makes it difficult to seek expert advice and opinions. The DOE should provide an extensive time frame to allow for public comments on the project.

Comments on the project will be collected by the DOE. The DOE restricts the comments that it will accept to those directly related to the DEIA. This would result in the rejection of comments that addresses environmental issues that concerns the EIA but was not expressly referred to in the report. Past experience have shown that a large number of public comments have been disregarded on this reason. There lacks an institutionalised feedback process for the comments submitted. The DOE will send acknowledgment of receiving the comments but the reply (only for comments deemed related to the EIA), prepared by project proponent or the

consultants on the proponent's behalf will only be available through briefings or consultation sessions. These sessions are usually brief where the answers are prepared earlier and there is little time for further questions for further clarifications. Those who submit comments are invited to the sessions but those who attended felt as if their presence was more to legitimise the project rather than to secure genuine feedback.[116]

"Briefings" with the communities is a step that can be taken to disseminate the information orally, but they tend to be short sessions where limited details such as the size, scope and rationale of the project is explained to the people. These "briefings" are not a legal requirement and is conducted only where there has been public outcry over the proposed project and not necessarily done for the benefit of the affected communities.

It is recommended that a broader scope of issues and concerns that goes beyond what is dealt with in the DEIA report should also be given consideration as the affected public has a right to know everything in relation to the proposed project.

4.6.5 Enforcement

The EIA Handbook states that EIA should be conducted at the early stages of project planning. In practice, some project proponents only commence with the EIA late into the planning process[117]. It is noted in the Guidelines that from 1988 to 1992, 83% of reports submitted "were not in accordance to the project planning schedule recommended in the EIA Guidelines"[118]. Better enforcement should be implemented

[116] See note 108, pg 47
[117] See note 8, pg 10
[118] See note 108, pg 44

by providing stricter guidelines or taking punitive action errant proponents so as to prevent project proponents from delaying conducting the EIA.

When the report is submitted to the DOE late, or submitted incomplete with certain information unavailable or missing from the report, this further delays the whole approval process. The DOE being short staffed is also another reason for the slow movement of an EIA approval. As the current practice requires all DEIA reports to be reviewed in the DOE headquarters in Putrajaya, there is a heavy strain on the officers' workload. The process could probably be expedited if the DOE were provided with more staff[119].

4.6.6 Limited Role of the Review Panel

The DEIA will be submitted to a Review Panel who will assist the DOE in deciding to approve or reject the report. The members of the panel are not made public which means that they bear no accountability for their decisions. They cannot substantially influence the decision of the DOE but usually have some input on the conditions attached to EIA approval. However, the Review Panel is not kept informed of the progress of their comments. An environmental campaigner, Gurmit Singh who sat on the Review Panel for a waste treatment facility in Bukit Nenas, Negeri Sembilan said that he was not made aware of the approval conditions given to the proponents upon the project's approval after completion of the EIA process. Some NGOs also claim that their presence in the Review Panel is merely to satisfy the requirement for public participation as their feedback is often ignored and sometimes decisions of the approval of the project has been made before the Review Panel meeting.[120]

[119] See note 44
[120] interview with Ms. Sonia Randhawa, Director, Centre for Independent Journalism, April 10 2008

4.7 Role played by Stakeholders

4.7.1 Project proponent

Project proponents play a major role in determining the success or failure of public participation in EIA. They have the power and resources to ensure that public participation can be conducted in a proper manner.This is the reason it is important to ensure that they understand the importance of public participation. There are two groups of proponents. The first group complies with EIA procedures because they see it only as prerequisite for project approval. This is mostly prevalent among proponents for small and medium sized projects. They do not see how their minor project can really adversely impact the environment. The second group of proponents who are keen on having EIA are those who believe EIA to be a planning tool for the project and realises the importance of environmental protection and public participation. Unfortunately, the position in Malaysia shows that a sizable number of project proponents still view the EIA only as a requirement to be fulfilled for project approval.[121] Another hindrance for extensive public participation is the reluctance of project proponents to spend on this component. Admittedly, conducting an EIA can be costly, with the cost of an EIA for a major development project may run in the hundreds of thousands. Being profit-minded, Project proponents do not consider EIA studies as a priority.

4.7.2 Local community

The local community can play an important role in determining the most suitable concept and design for the prescribed activity. Generally, local communities do not oppose development, as long as it is done in a responsible and proper manner. If the proposed project is beneficial, they also stand to benefit from the better infrastructure

[121] See note 111

and income-generating opportunities that come together with the development. In the occasions that they have shown opposition to the project, the opposition is for valid reasons such as risk of pollution or environmental destruction, fear of loss of income or land, or frustration for being kept in the dark and the lack of information concerning the proposed project. People tend to be suspicious when a project is done in a rushed, secretive manner with minimal or no information being relayed to the community. In many EIA studies that were conducted, the feedback obtained from the local communities have shown to be extremely valuable in helping the other stakeholders determine the feasibility of the proposed activity, the best concept to be used in constructing that project as well as the proposed environmental impacts and mitigation measures to be taken to preserve the environment in that area.

4.7.3 Non-Governmental Organisations

It is admitted that NGOs can play an important role in the EIA process. Besides highlighting environmental issues that are of importance in assessing the environmental effects of a proposed project, NGOs are also responsible for the spreading of information relating to the environment. NGOs play the role of the intermediate bridging the gap of communication between the public and the authorities. They provide the public with the information needed concerning the project and the possible impacts that may come out of the project and at the same time assist the communities to voice out their views and comments to the authorities and consultants appointed by the proponents to assess the viability of the project.

Both the authorities and consultants have voiced their ease of working with the NGOs. They openly admit that in certain situations the feedback obtained from the NGOs are very helpful in their assessment. The constructive comments and

suggestions provided by the NGOs are valued by the consultants who will take them into consideration in their report. On complaints from the NGOs that they are not given enough avenues to participate, Ms Lina Chan voices her disagreement. As a consultant, it is her practice to consider and evaluate comments received from both members of the public and NGOs in preparing an EIA report[122].

When it comes to participation of NGOs, there is no fixed approach in the dealings between consultants with them. For some projects, it is the consultants who will approach the NGOs for assistance while in others, the NGOs will approach the consultant to offer feedback or to receive information. The NGOs also play an important role in helping the consultant reach out to the local communities[123]. Besides participating in the EIA study, NGOs are often invited to participate during the presentation of the TOR. Their comments are welcomed as it will help the consultant in performing their duty.

Consultants seek NGO participation from the early stages of development of the EIA. Usually NGOs will come to consultants with a list of concerns they have concerning the proposed project. The consultant will take this opportunity to explain the project to the NGOs and assess whether the issues raised by the NGOs are relevant to the EIA study. As far as reasonable, the consultant is duty bound to address the relevant issues raised by the NGOs.

While some have argued that NGOs are only invited to participate to enable the consultants to show that the report they prepared is comprehensive but without actually taking into consideration the comments provided by the NGOs, this view is

[122] See note 111
[123] See note 111

opposed by the EIA consultants interviewed. In preparing an EIA report, the consultants also seek to suggest the most suitable and environmentally friendly method of proceeding with the proposed project and obtaining the NGOs views can sometimes lead to the discovery of a method that the consultants were not aware of earlier. It should therefore be seen as a 'win-win' situation for all parties. The NGOs being given the opportunity to have their views heard and considered, the project proponent and consultants receiving valuable input on the project and the DOE receiving impartial feedback on the environmental impacts which will or may be caused by the project.

The DOE also welcomes the participation of NGOs as they help provide a clearer picture on the pros and cons of the proposed project. NGOs such as World Wildlife Fund (WWF) and Malaysian Nature Society (MNS) have often been invited to sit in panel review meetings to share their input in helping DOE decide on the approval of a DEIA. While their feedback is welcomed, the DOE is not bound to adhere to all the suggestions given by the NGOs. In deciding the approval of an EIA report, both the needs for environmental protection and development of the country will be taken into consideration[124].

While both DOE and consultants have voiced their satisfaction with the role played by NGOs in the EIA process, this view is not shared by those working with the NGOs. Ms. Sonia Randhawa admits that if given the opportunity to 'effectively' participate, there is a lot that can be done by NGOs to improve the EIA process. NGOs are able to raise awareness on the need for public participation, facilitate public participation between the stakeholders and the local communities, as well as

[124] See note 44

push for legislative and institutional reform. However, in reality, there is little chance for all of this as she is of the view that NGO participation is done only to satisfy the requirement in the guidelines[125]. There are occasions where NGOs have been invited to attend review panel meetings but the level of participation is very low. Their attendance is merely as observers as generally, the feedback and comments provided by the NGOs are ignored. An example provided was during the consultations between stakeholders for the Kelau Dam project were the NGOs originally consulted for the project decided to walk out from the meeting as they felt their presence was not playing an effective role in the consultation process.[126]

As there are conflicting views on the level and effectiveness of NGO participation in the EIA process, it is recommended that an open dialogue be held between the interested parties to allow for better cooperation in the future.

4.7.4 EIA Consultant

Being the one responsible for preparing the EIA report, consultants have the duty to ensure that the study is conducted in a proper and transparent manner with accurate and unbiased findings presented in the report. If they are able to do so, all parties will be able to accept findings of the report.

In conducting the EIA study, the public participation component should not be taken lightly. The information-gathering process should be conducted in a manner that can uncover the true views of the local communities. Questions during the surveying process should be framed in a way that members of the local communities can express in detail their fears and concerns in relation to the project. The enumerators

[125] See note 120
[126] See note 120

should approach the communities in the proper manner to gain their trust. The public scoping exercise needs to be done in a thorough manner to enable accurate feedback from the communities is obtained. The consultants also have the duty to ensure their findings are incorporated into the EIA report. An example of a questionnaire distributed to local communities during a DEIA study is reproduced here as **Appendix 10.**

By requiring consultants to be registered and monitoring the quality of their work, the DOE are taking the correct steps in ensuring that consultants will conduct their work in the professional manner expected of them.

4.7.5 Department of Environment

While admitting that the current practice is far from perfect, the DOE believes that the situation is fast improving, with many changes being implemented or in the process of being implemented. Knowing that the number of EIAs are increasing as the need to develop the countries grows steadily, the Director-General of Environment has ordered that the time frame for the review and approval stages be shortened. This will ensure that the officials in charge work more efficiently.

On the issue of quality of reports prepared by consultants, as a step to maintain the high quality of work expected in EIA reports, the department has introduced a registration system for EIA Consultants. Beginning October 2007, only consultants registered with the DOE may conduct EIA studies. The performance of these consultants will be evaluated by looking at their track record and the quality of the reports they have prepared. Consultants who produce shoddy and incomplete reports or reports which contain false incomplete information will be blacklisted and

their registration may not be renewed. To ensure long-lasting quality of work, the renewal of the registration will be done on a yearly basis,

On the issue of insufficient information forwarded to the public, the DOE contends that it updates the environmental information on the website on a regular basis. In relation to EIAs, the website provides the names and details of all registered consultants, list of available TOR and DEIA, and accepts comments and queries from members of the public. It is submitted that this can be further improved with information concerning rejected DEIAs and by making soft copies of DEIAs available for downloading by interested parties.

A suggestion that should be considered to improve the level of enforcement of EIA and other environmental protection mechanisms is the setting up of a Ministry of Environment. By having a separate Ministry of Environment, environmental matters would be given more priority by the governing body which will result in more funding, more staffing and ultimately more power to enforce the environment functions oe Ministry.

4.8 Case study of Public Participation in EIA – the Malaysian Experience

4.8.1 Coastal Protection and Beach Rehabilitation Work in Teluk Tekek Beach, Pulau Tioman.

A DEIA was prepared for the coastal protection and beach rehabilitation work in Teluk Tekek beach on Pulau Tioman for the project proponent, Department of Irrigation and Drainage. This DEIA is a good example of public participation being used to determine the best project option that all parties are satisfied with. In

preparing the DEIA, the EIA consultants showed their commitment to ensuring the views of the local community are taken into consideration. Besides the public scoping done through questionnaires, the consultants held five sessions of public hearings between themselves and members of the community, the village head, state authorities and the project proponent.

Coastal erosion problems has been ongoing at Teluk Tekek for years, and some owners have already lost parts of their land to the sea, forcing some chalet operators to erect sea walls to protect their property from further erosion. Initially, when informed of the proposed project, the local community voiced concern and disapproval. Although they realised the benefits to be gained by the rehabilitation work, a negative past experience with another project developer made them cautious in accepting any other development project. Realising the sensitivities and discontent of the community, the best method to obtain feedback was by holding public meetings with them. Meetings were held between the stakeholders to discuss the reasons for the communities' fears and to answer questions they may have on the project. Their main concerns was the proposed project could cause destruction to Pulau Tioman's environment, the decrease in the number of tourists and the loss of business affecting their livelihood as they depend mostly on tourism. They also voiced concern over the beach closure during the sand nourishment process, the influx of workers, noise pollution and heavy traffic on the jetty. A few local villagers also raised questions on the effect of the project on fishing activities.

The comments from the public were taken into consideration and some changes to the project concept were done to minimise possible adverse impacts. After the changes were incorporated into the project plan, further meetings were conducted

with the communities. Realising that there is an urgent need for beach rehabilitation and comforted by the fact that steps to safeguard their interests are taken, the communities were less resistant. The beach reclamation project also expected to bring a lot of positive impacts such as improved infrastructure and more sandy beaches which will in turn improve the living quality of the locals and attract more tourism activities. After the meetings were conducted, the community perception survey carried out as part of the DEIA indicates overwhelming support of the proposed Project[127].

This successful implementation of public participation in preparing an EIA study shows the positive impacts of public involvement. By obtaining the views and feedback from the locals, it would also facilitate the work of the project proponents as the locals are the ones who know understand the issues related to that area. This allows them to provide valid and relevant suggestions that could result in a positive outcome for the project.

4.8.2 Broga[128]

Broga, a small community outside Kuala Lumpur was chosen as the site for a large waste incinerator project. The community opposed the project but their opposition struggled against problems of lack of information and consultation as well as a media blackout preventing any open discussion concerning the project. It was only through a news report that the residents were informed that the project would commence in their area in 2003. The decision appeared to have been made before an EIA was approved.

[127] Detailed EIA Report for Coastal Protection and Beach Rehabilitation Work in Teluk Tekek Beach on Pulau Tioman, August 2006
[128] See note 108, pg 49

The community formed the Broga Anti-Incinerator Committee and met the national human rights commission (SUHAKAM) to discuss their predicament. The meeting was attended by DOE officials who failed to provide any answers. The community was also pressured from disseminating information to the media resulting in a stop of media coverage on the Broga issue.

The Committee received information that the Japanese company awarded the construction contract, Ebara Corporation had a bad record with past projects helmed by them embroiled in a number of environment problems. From research conducted, the Committee discovered that emissions from waste incinerators caused many environmental and health hazards. The Committee held a series of meetings with elected representatives, the local council and DOE but questions on health impacts, concerns about pollution and open contracts remained unanswered. A journalist from Malaysiakini.com attempted to help the Committee by persistently raising questions to Minister but was still unable to obtain clear answers.

The community obtained a copy of the EIA after seeing notices in the newspaper. They worked with various NGOs and submitted comments but received no official response to them. Prior to the approval of the EIA, the government commissioned advertisements explaining the benefits of the incinerator project. When the EIA was approved, an additional report was called for due to a slight relocation of the project. Notice for comments for the second EIA was only advertised in one English newspaper, although the villagers were mainly Chinese or Malay speakers.

In November 2003, the residents filed a court action seeking a declaration ordering the Government to divulge details concerning the project. They brought another

action in 2005 applying for a stay order pending the decision of the first action filed. The High court granted a temporary stay order.

The committee also faced difficulties while attempting to see the approval conditions attached to the first EIA. Many excuses were given by the authorities to prevent the committee from accessing the information they were seeking including that the information cannot be disclosed due to the pending court action.

In 2007, during continuation of hearings for the court actions, the resident's were told that the Government had decided to terminate the plans for the incinerator project[129]. After years of protest, the residents of Broga finally saw the result of their hard work. This case shows the flaws in the EIA process where efforts of public participation are hampered by lack of information and transparency from the authorities. This case also proves that with perseverance and hard work, public participation can still play a role in environmental decision-making in Malaysia.

4.9 Conclusion

From the literature review conducted and supported by the feedback obtained through interviews conducted with interested parties, the general consensus is that the element of public participation in EIA process does exist and is being implemented in Malaysia but it is not adequate to enable public participation to play a meaningful role in the process. The inadequacy could be due to several reasons, the weak legal framework which fails to expressly state the need for in depth public participation, or the lack of enforcement by the authorities in ensuring that public participation is conducted at the early stages of project planning thus enabling it to

[129] <http://thestar.com.my/news/story.asp?file=/2007/7/6/nation/20070706172529&sec=nation>, retrieved on 15 April, 2008

play an effective role, or the lack of understanding among project proponents who fail to see the role EIA can play as a planning tool.

As a member of various international agreements which require and encourages nations to enforce rights of access to environmental information and allow for public participation in environmental decision-making, Malaysia has an international obligation to ensure that steps are taken, both by enacting legislation and by ensuring effective implementation, to ensure that the Malaysian public can participate in the EIA process in an effective and satisfactory manner.

The next chapter will analyse the Aarhus Convention, By looking at the Aarhus Convention, maybe the solution for the Malaysian situation may be discovered. Examples of public participation in EIA in other countries will also be studied. A comparison between the Malaysian position and the situation overseas will enable a discussion on the feasibility of proper public participation in the EIA process. The discussion seeks the answer to the question "Is Malaysia alone in facing a problem of ineffective public participation in the EIA process?". If other countries are able to implement public participation, maybe Malaysia can replicate their success by adopting the same measures introduced in those countries.

Chapter 5: The Aarhus Convention and International Case Studies

5.1 Introduction

This chapter discusses the Aarhus Convention, the first international environmental treaty that puts obligations on states to guarantee rights of access to information, public participation in decision-making and access to justice in environmental matters to all persons. An analysis of the Convention's provisions will be conducted to determine its applicability to the EIA process and to discover whether the same provisions may be applied in Malaysia. While Malaysia is not a member of this Convention, the principles enshrined in this Convention are of universal application. This chapter also looks at case studies of good practice of public participation in the EIA process from other countries.

5.2 Aarhus Convention

The Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters was adopted on 25th June 1998 in the city of Aarhus, Denmark. It was negotiated under the framework of the United Nations Economic Commission for Europe ("UNECE"). The Convention entered into force on the 30th October 2001. [130]

The Convention is based on Principle 10 of the 1992 Rio Declaration. The right to information, public participation and access to justice in environmental matters are environmental tools set forth in Principle 10. The three legal procedures aim to

[130] UNECE website, <http://www.unece.org.env>, retrieved on 3 Mac 2008

ensure that every potentially affected person can participate in the process of environmental management. They provide transparency in governance and hence serve to strengthen legislation and institutional regimes for environmental management.[131]

The Convention is the most comprehensive environmental agreement in providing concrete obligations and information relating to Principle 10 because it covers all three elements in detail. The Convention provides for a broad right to public participation in environmental decision-making and a right of access to environmental information. This right includes the right to request and obtain information and an obligation upon countries to collect and disseminate information. The Convention also grants to the public a right to access to the courts in environmental matters, ensuring that decisions relating to public participation and access to information may be challenged. The Aarhus Convention is distinguished from other environmental treaties as it combines basic human rights with environment preservation. While other environmental treaties have included some of these rights in their provisions, Aarhus Convention stands out as it deals specifically with the obligation of Member States to provide these rights.

5.2.1 Pillars of the Convention

'Access to information' refers to both the availability of information related to the environment as well as the mechanisms by which public authorities provide environmental information[132].

[131] Training Manual for International Environmental Law, UNEP, <www.unep.org/DPDL/law/PDF/law_training_Manual.pdf> , retrieved on 18 Dec 2007
[132] See note 131

'Public participation' means the availability of opportunities for individuals, groups and organisations to provide input in the making of decisions which have, or are likely to have an impact on the environment, including in the enactment of laws, policies, and guidelines, and Environmental Impact Assessment (EIA) procedures[133].

'Access to justice' refers to effective judicial and administrative remedies and procedures available to a person, both legal or natural, who is aggrieved by environmental harm. The term includes not only the procedural right of appearing before an appropriate body but also the substantive right of redress for harm done[134].

The three rights form the three pillars of the Aarhus Convention. The three pillars work together and depend on each other to be effective. Access to environmental information is a prerequisite to public participation in decision-making and to monitoring governmental and private sector activities. It also assists enterprises in planning for and utilising the best available techniques and technology. Effective access to justice in environmental matters requires an informed public that can bring legal actions before informed institutions.[135]

The importance of the Convention is proven by the words of Kofi A. Annan, the former Secretary-General of the United Nations who said, "Although regional in scope, the significance of the Aarhus Convention is global. It is by far the most impressive elaboration of Principle 10 of the Rio Declaration, which stresses the need for citizen's participation in environmental issues and for access to information on the environment held by public authorities. As such it is the most ambitious

[133] See note 131
[134] See note 131
[135] See note 131

venture in the area of 'environmental democracy' so far undertaken under the auspices of the United Nations.".[136]

5.2.2 Objectives of the Convention

The Aarhus Convention is an agreement that links environmental rights and human rights. It. acknowledges the obligation of the current generation to future generations to preserve the environment.[137] The Convention recognises every person's right to a healthy environment as well as the duty to protect it. The Preamble to the Convention seeks to ensure that every individual lives in an environment adequate for his or her health and well-being, and has the duty, both individually and in association with others, to protect and improve the environment for the benefit of present and future generations.[138]

While the Convention is an instrument to protect the environment, it may also be seen as an instrument promoting democracy. Specifically, it aims to:

1) Allow members of the public greater access to environmental information held by public authorities, thereby increasing the transparency and accountability of government;

2) Provide an opportunity for people to express their opinions and concerns on environmental matters, and ensure that decision makers take due account of these; and

[136] http://www.cleanproduction.org/Steps.Public.Aarhus.php, retrieved on 3 Mar, 2008
[137] <http://www.unece.org/env/pp/acig.pdf> , retrieved on 3 Mar 2008
[138] Preamble of UNECE Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters 1998

3) Provide the public with access to review procedures, when their rights to information and participation have been breached, and, in some cases, to challenge more general violations of environmental law

To promote this objective, the Convention embraces governmental accountability, transparency and responsiveness.[139] This is probably why the former UN Secretary-General, Kofi Annan refers to it as the most ambitious venture in "environmental democracy".

5.2.3 Content of the Convention

The Aarhus Convention links government accountability and environmental protection. It focuses on interactions between the public and public authorities in a democratic context and encourages public participation in the negotiation and implementation of international agreements. The Convention grants the public rights and imposes on public authorities obligations regarding environmental matters[140].

The Convention is legally binding on Member States. A "Meeting of Parties" is organised at least once every two to three years to review progress and share information on national actions relating to the three pillars of the Convention. These conferences are open to observers, including the public, NGOs and representatives from non-member States. While the Convention was drafted by Member States, there was intensive involvement of environmental NGOs during the process. NGOs continue to play a vital role in promoting the principles of the Convention. The

[139] <http://www.unece.org/env/documents/2006/pp/ece%20mp%20pp%205_E.pdf>, retrieved on 3 Mar 2008

[140] <http://www.moew.government.bg/aarhus/index_e.html>, retrieved on 3 Mar 2008

Convention contains provisions that expressly entitle NGOs to participate in decision-making, request disclosure of information and to litigate.[141]

The Convention requires Parties to guarantee the three pillar rights to every person without discrimination on the basis of citizenship, nationality or domicile. The Convention establishes minimum standards to be achieved in enforcing the rights but does not prevent any Party from adopting measures which go further in the direction of providing access.

The main thrust of the obligations contained in the Convention is towards public authorities, which are defined widely so as to cover governmental bodies from all sectors at all levels, as well as bodies performing public administrative functions.[142] Although the Convention is not focused on the private sector, private bodies having public responsibilities in relation to environmental matters and which are under the control of public authorities are also covered by the definition. However, governmental bodies acting in a judicial or legislative capacity are excluded from the definition.

The Convention covers both the 'passive' and 'active' aspects of access to information. Public authorities are obliged to respond to requests for information from the public, as well as the 'active' aspect such as the collection, updating and public dissemination of the environmental information.

[141] Article 2(5) of the Aarhus Convention, defines "the public concerned' to include non-governmental organisations promoting environmental protection"
[142] Article 2(2) of the UNECE Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters 1998

The scope of environmental information covered by the Convention is broad, encompassing a non-exhaustive list of elements of the environment, factors, activities or measures affecting those elements and human health and safety, conditions of life, cultural sites and built structures, to the extent that these are or may be affected by the aforementioned elements, factors, activities or measures.[143] The definition also covers information in various forms (written, visual, aural, electronic etc) and there is a qualified requirement on public authorities to provide the information in the form specified by the requester. [144]

The Convention applies a presumption of access principle where any request for environmental information must be entertained unless it can be shown that the information should not be disclosed as it falls within a restricted list of exemptions.[145]The right of access extends to any person without the need to state reason for requesting the information[146]. The Convention provides for the information to be provided within one month after submission of the request. However, this period may be extended by a further month where the volume and complexity of the information justify the extension. The requester must be notified of any such extension and the reasons for it.[147]

Public authorities may impose a 'reasonable' charge for supplying the information requested.[148] Public authorities may withhold information where disclosure falls under one of the exemptions from disclosure which include national defence, international relations, public security, commercial confidentiality, intellectual property

[143] Article 2(3) see note 142
[144] Article 4(1)(b) see note 142
[145] Article 4(1) see note 142
[146] Article 4(1)(a) see note 142
[147] Article 4(2) see note 142
[148] Article 4(8) see note 142

rights, personal privacy, confidentiality of the proceedings of public authorities; or where the information requested has been supplied voluntarily or consists of internal communications or material in the course of completion.[149] These exemptions are not absolute and are subject to restrictions. To prevent abuse of the exemptions by over-secretive public authorities, the Convention stipulates that the aforementioned exemptions are to be interpreted in a restrictive way, and may only be applied when the public interest served by disclosure has been taken into account.[150]

The Convention imposes active information duties on public authorities. This include the obligation to keep environmental information related to their functions up to date and 'effectively accessible' to the public by providing information on the type and scope of information held and the process by which it can be obtained. As far as possible, environmental information have to be made publicly available in electronic databases which can easily accessed through public telecommunications networks.[151] The information which should be made available in this form includes state of the environment reports, texts of environmental legislation and policies and programmes relating to the environment. The Convention stipulates that public authorities are to immediately provide the public with all relevant information which could enable the public to take measures to prevent or mitigate harm arising from an imminent threat to human health or the environment.[152]

The Convention sets out minimum requirements for public participation in various categories of environmental decision-making. Article 6 and Article 7 of the Convention establishes certain public participation requirements for decision-making

[149] Article 4(4) see note 142
[150] Article 4(4) see note 142
[151] Article 5(3) see note 142
[152] Article 5(1)(c) see note 142

on licensing or permitting of activities which may have a significant effect on the environment [153] Article 6 also requires the State to disclose the fact whether an activity is subject to a national or transboundary EIA procedure[154]. The State should provide reasonable timeframes for participation, and should include public participation at an early stage of the process. Public notification of the decision, with the text of the decision and the reasons and considerations on which it is based should be made public promptly. Article 6 defines 'public concerned' as 'the public affected or likely to be affected by, or having an interest in, the environmental decision-making', and explicitly includes environmental NGOs.

Article 9 of the Convention aims to provide access to justice by providing review procedures with respect to information requests, decisions which are subject to public participation requirements, and other challenges to breaches of environmental law. The Convention provides that any person whose request for information has not been dealt with to their satisfaction must be provided with access to a review procedure before a court of law or another impartial body established by law[155]. The Convention attempts to ensure a low threshold for such appeals by requiring that the review procedure is expeditious and inexpensive. Final decisions must be binding on the complainant and the public authority holding the information, and where the appeal is refused, the reason for the decision must be put into writing.[156]

The Convention provides for a right to seek a review in connection with decision-making on projects or activities covered by Article 6. The review may address either the substantive or the procedural legality of a decision of both. The scope of persons

[153] Article 6(1)(a) see note 142
[154] Article 6(2)(e) see note 142
[155] Article 9(1) see note 142
[156] see note 155

entitled to pursue such an appeal is similar to, but slightly narrower than, the 'public concerned', as it involves a requirement to have a 'sufficient interest' or 'maintain impairment of a right' where the administrative procedural law of a Party requires this as a precondition[157]. However, the text also states that these requirements are to be interpreted in a manner which is consistent with 'the objective of giving the public wide access to justice.

The Convention requires Parties to provide access to administrative or judicial procedures to challenge acts and omissions by private persons and public authorities who breach laws relating to the environment. The procedures are required to be 'fair, equitable, timely and not prohibitively expensive'. Decisions must be recorded in writing, and made publicly accessible. States are required to consider assistance mechanisms to remove or reduce financial and other barriers to access to justice.

5.3 Aarhus Convention and EIA

The Convention applies to all environmental matters including EIA. Pertaining to EIA, by applying Article 4, public authorities are duty bound to provide any environmental information requested except if it can be shown that such information falls under an exemption that justifies the non-disclosure. It must be ensured that disclosure of the information must be done within a reasonable time limit. Besides the duty to disclose information that is requested, public authorities must collect and distribute relevant environmental information to the public. This would mean that even if not requested to disclose the information, certain categories of environmental information must be made public. This would include information such as availability of EIA reports, facts and figures pertaining to the proposed project and updates on the current status of

[157] Article 9(2) see note 142

the project. This would support the view that EIA Reports and other information related to EIA should be available to the public.

Article 6 of the Convention provides that members of the public have the right to participate in environmental decision-making. In the context of EIA, this would mean keeping the public informed from the early stages of the project and welcoming their involvement in various stages of the EIA process. Public should be notified of any proposed decision-making and be allowed to sit in and participate in the discussions and consultations. Their views and suggestions should be heeded and taken into consideration when possible. They should not be prevented or discouraged from participating as decisions should be made in a transparent and just manner to ensure that the decision will benefit all parties.

By applying Article 9 of the Convention, it should be ensured that members of the public who are dissatisfied with the failure to obtain information or who has been prevented from participating in the EIA process have access to a review procedure before a court or another independent body. This will ensure that the public has access to justice. This would require the relaxing of the requirement for *locus standi* and the establishment of an independent body such as a Commission to handle environmental matters.

5.4 Case Study of Public Participation in EIA Process

5.4.1 Netherlands [158]

EIA is perhaps the most powerful tool the people of Netherlands have to provide input in environmental decision-making. There is an elaborate rule that projects

[158] <http://www.netcoast.nl/coastlean/website/pp/caseholland.html> retrieved on 10 Mar 2008

cannot be executed unless a satisfactory EIA is conducted. Under Dutch laws, the public are to be consulted, notices are to be placed, public hearings are to be conducted and the result must be made known to the public in a readable format. The result gives an indication of what methods were used in conducting the assessments, the alternatives to executing the project, including the zero alternatives, which is the situation if nothing is done. Another aspect to be considered during assessment is the nature and mode of compensation to be awarded to the people who might suffer harm as a result of the execution of the project. The rules also provide that the set up of an EIA, the drafts and the final reports can be discussed in public. This allows the people to be extensively involved in the planning, execution and monitoring of the project.

The realisation that public opinion has an enormous effect on past government decisions has pushed the government to search for a consensus that is agreeable to all parties including the people. The government has learned from past experience that it is useless spending a lot of time and money planning a project only to find out that it cannot be implemented due to strong opposition from the public.

In matters of coastal management, it is common practice to organise a public hearing before a decision is taken on projects that are perceived to have effect on a wide range of inhabitants. Every coastal municipality in the Netherlands has a public complaint department. The department has an environmental desk which records the views of members of the public who wish to voice out their concerns to any of the items or proposals published in the newspapers or newsletters. The municipalities have the duty of informing the person on the outcome of the deliberations with the company within four weeks. This method has succeeded in building confidence of

the local people and in giving them the impression that they are part of the administration. The fact that the municipality is obliged to inform them of the outcome, makes them know that their complaint will be taken seriously. If a large number of complaints are received pertaining to the same matter, the government can decide to hold a public discussion to decide the appropriate action to be taken.

5.4.2 Denmark[159]

EIA became compulsory in Denmark in 1989 when the country implemented the EU Directive 85/337/EEC on the Assessment of the Effects of Certain Public and Private Projects on the Environment. Even before that, Danish environmental law in relation to planning and land use has already fulfilled the objectives for the need of environment assessment in development activities. Initially, there were some complications due to Denmark's reluctance to amend national laws to suit the EIA Directive as Denmark felt that their laws were adequate or superior to the Directive's requirements but studies conducted have shown that the current practice of compliance to EIA legal prescriptions in Denmark is satisfactory and beneficial to the environment. As the Directive states minimal standards to be complied with, Denmark is free to decide how to implement the Directive in their national legislation. Denmark goes beyond the requirements of the Directive by requiring EIA on more activities than required by the Directive. In Denmark, EIA competence is enforced by the regional councils. In most cases, the competence to issue permits is at the regional or local council level and there is smooth coordination between regional and local council.

[159] see note 72, pg 14

For other cases, such as projects relating to the sea, EIA is under the responsibility of the Ministry of Transport and projects that require a 'Country-planning Directive' is the responsibility of the Ministry of Environment. There is integration between the planning system and the environmental permit system as there is a stipulation that projects subject to EIA will not be granted other permits before the EIA permit is given. A special characteristic of the Denmark EIA system is that authorities are the ones responsible for preparing the EIA Report. Information will be provided by the project proponent but the final report is prepared by the authorities.

The possibilities for public participation are legally ensured at different stages of EIA. If a project is subject to an EIA, a short hearing phase is mandatory during the scoping phase to allow the public to provide suggestions. After the draft EIA report is prepared, it has to go through as public hearing phase of at least eight weeks. After that stage, raised objections will be processed and the final decision is made by the regional council. The decision must be made public together with the reasons for the decision and guideline for objecting the decision. A timeframe of four weeks is provided for submitting complaints or objections. Before the regional plan is approved by the politicians, a public hearing about the project must be conducted. The regional plan must be published and comments may be submitted within eight weeks.

5.5 Conclusion

The Aarhus Convention functions to ensure that the right to environmental information, public participation in environmental decision-making and access to justice in environmental matters are made available by public authorities to every person. The Convention is a big step forward in providing rights to members of public

and NGOs in environmental matters while ensuring that public authorities fulfill their responsibility in an open and transparent manner. The provisions of the Convention demonstrates the international standards of environmental protection that should be emulated by Malaysia and is in line with the obligations stated in many other international environmental agreements that Malaysia is a member of. While not a member of Aarhus Convention, membership in other treaties signify Malaysia's obligation to comply with the principles enshrined in Aarhus Convention. Therefore, it is appropriate for Malaysia to carry out measures to improve the implementation of these basic human rights.

Pertaining to the EIA process, the Convention requires the state to ensure the public are able to participate in the process and have access to the relevant information. The Netherlands and Denmark who incidentally are Member States of the Convention, are known to have among the best EIA practices when it comes to public participation. Malaysia should take steps to emulate them by improving the public participation element in the EIA process. By looking at their experience, it is obvious that effective public participation has many benefits to all parties including the government.

Chapter 6: Conclusion and Recommendations

The EIA process was introduced in Malaysia as a planning tool to encourage the implementation of sustainable development. By having an EIA system in place, development can take place in the country without compromising the environment. The EIA process involves the competing interests of many parties. The project proponents need the EIA as a prerequisite for obtaining the approval for their development projects. The government agencies require the EIA for them to balance conflicting needs of the nation for both development and environmental protection. There are the members of the public who depend on the EIA to ensure that their right to live in a healthy environment is protected when development projects that could affect their quality of life is implemented. The NGOs depend on the EIA to ensure that the environment is not sacrificed in the race to develop the country. Realising the importance of EIA, it must be ensured that public participation is encouraged and implemented effectively.

With the above note, from the findings in Chapter 4 and the discussion following it, It is evident that public participation in the Malaysian EIA process is inadequate. Existing EIA laws do not expressly state the need for effective public participation and weak enforcement of the EIA procedural requirements further hamper efforts to boost public involvement in the EIA process. The fact that the Malaysian courts apply a strict interpretation of *locus standi* further limits the public's access to justice when it comes to EIA matters.

To improve the situation, certain measures must be taken to enable public participation to play an important role in the EIA process. This can be done by

amending the legal provisions governing the EIA process. Ambiguous provisions that merely imply the inclusion of public participation in the EIA process should be replaced with clear provisions that expressly state the need for mandatory public participation. Another step to be taken is reconciling the three existing EIA laws into one in order that a standardised law is applicable nationwide. This will result in less confusion and better transparency in the EIA process.

The consultants must maintain their professional ethics in preparing an EIA report. The EIA report must be accurate, comprehensive and unbiased. The quality of the EIA report must be maintained at all times. Reports should be submitted on time and must contain all the necessary information to enable the DOE to come to an informed decision. In conducting the EIA study, the public participation component must not be taken lightly. Steps should be taken to ensure the feelings and views of the local communities are correctly represented in the EIA report. The EIA report must include all possible options and mitigating factors including those which do not support the construction of the project. In ensuring the EIA Report satisfies all requirements, the consultants must be willing to cooperate with all interested parties including the local communities, NGOs, local authorities, DOE and the project proponent.

Better enforcement by the government agencies could also play a role in improving the state of public participation in the EIA process. The DOE should be firmer when dealing with project proponents who fail to conduct EIA studies at the early stages of the project. The DOE could also introduce training and awareness-raising courses to educate the project proponents on the vital role that a properly conducted EIA can play in the planning process. The DOE should also continuously monitor the quality

and accuracy of the EIA reports submitted by the EIA consultants. It must be ensured that the views and complaints of the local communities are incorporated into the study. Doing so will result in a comprehensive and unbiased EIA report which will help the DOE in the decision-making process on the approval of the EIA report. Further monitoring upon the approval of the report should be continued to guarantee that the proponent complies with the approval conditions. Admittedly, the implementation of these measures will require a lot of effort from the DOE. It is recommended that the DOE increase the number of trained personnel dealing with the enforcement of EIA. With the current emphasis on the environment, there could be a need for the environmental functions of the Ministry of Natural Resources and Environment (NRE) to be disaggregated into its own ministry. By having a separate Ministry of Environment could solve many existing problems such as understaffing and poor enforcement of policies. Having a Ministry of Environment in place would allow environmental matters to be given priority and would lead to allocation of extra funding and better implementation of environmental programmes including EIA. The upgrading of the DOE to a Ministry would also result in more authority in dealings related to environmental matters.

NGOs have continuously played a commendable role in the EIA process by providing a platform for public participation. Among others, NGOs have raised awareness on various environmental issues, provided relevant information to the public, made public the concerns of the communities and facilitated consultation between the stakeholders. NGOs should be further encouraged as they provide a sense of 'check and balance' ensuring that each and every proposed development project goes through a stringent and transparent assessment before being granted approval. Steps should be taken to include NGOs at every possible opportunity. A

provision guaranteeing the right of NGOs to participate in the EIA process should be included in the EIA laws. The level of participation of NGOs should not be limited to merely attending meetings or briefings but also to take into consideration their comments in the decision-making process.

Local communities and members of the public should be encouraged to participate in the EIA process. They should have unrestricted access and opportunities to public participation. Education and awareness-raising programmes should be held for members of the public. They should be given access to all information relevant to the proposed project in order for them to fully understand the nature, benefits and consequences of the project. Steps should be taken from the early planning stages to include them in the process to enable them to express their views. Continuous communication and consultation between the public and other stakeholders throughout the entire process is essential to ensure that their interests are not harmed. In the event of dispute or dissatisfaction, the public should be granted the right to being an action in court. The requirements of *locus standi* should be relaxed to allow the public to have access to justice. The system of public interest litigation should be encouraged in Malaysia to allow more Malaysians to have access when it comes to matters of public interest such as matters concerning EIA.

The study also includes an analysis of the Aarhus Convention. As stated above, while Malaysia is not a member of the Convention, it is recommended that the principles of that Convention are to be applied in the EIA process to ensure better and effective public participation. The Malaysian public has a right to both, obtaining information in relation to EIA and to actively participate in the EIA process and the

government, having been selected by the people to represent them, has a duty to ensure that the public are accorded these rights.

As a conclusion, for the reasons stated above, it is submitted that the existing EIA system in Malaysia does not sufficiently provide for the right of the public to effectively participate in the EIA process. It is recommended that steps as suggested above are taken to improve the implementation and enforcement of public participation in the EIA process.

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ENVIRONMENTAL QUALITY ACT, 1974 (AMENDMENT, 1985) SECTION 34A

The Environmental Quality (Amendment) Act 1985, amended the Environmental Quality Act, 1974. Amendments include the insertion of section 34A which requires any person intending to carry out any prescribed activity to submit report on the impact on the environment to the Director of Environmental Quality for examination. The Amendment act was gazetted on 9 January 1986 and section 34A reads as follow:

"34A (1) The Minister, after consultation with the Council, may by order prescribe any activity which have significant environment impact as prescribed activity.

(2) Any person intending to carry out any of the prescribed activities shall, before any approval for the carrying out of such activity is granted by the relevant approving authority, submit a report to the Director General. The report shall be in accordance with the guidelines prescribed by the Director General and shall contain an assessment of the impact such activity will have or is likely to have on the environment and the proposed measures that shall be undertaken to prevent, reduce or control the adverse impact on the environment.

(3) If the Director General on examining the report and after making such inquiries as he considers necessary, is of the opinion that the report satisfies the requirements of subsection (2) and that the measures to be undertaken to prevent, reduce or control the adverse impact on the environment are adequate, he shall approve the report, with or without conditions attached thereto, and shall inform the person intending to carry out the prescribed activity and the relevant approving authorities accordingly.

(4) If the Director General, on examining the report and after making such inquiries as he considers necessary, is of the opinion that the report does not satisfy the requirements of subsection (2) or that the measures to be undertaken to prevent, reduce or control the adverse impact on the

environment are inadequate, he shall nor approve the report and shall give his reasons therefore and shall inform the person intending to carry out the prescribed activity and the relevant approving authorities accordingly. Provide that where such report is not approved it shall not preclude such person from revising and re-submitting the revised report to the Director General for the approval.

(5) The Director General may if he considers it necessary require more than one report to be submitted to him for his approval.

(6) Any person intending to carry out a prescribed activity shall not carry out such activity until the report required under this section to be submitted to the Director General has been submitted and approved.

(7) If the Director General approves the report, the person carrying out the prescribed activity, in the course of carrying out such activity, shall provide sufficient proof that the conditions attached to the report (if any) are being complied with and that the proposed measures to be taken to prevent, reduce or control the adverse impact on the environment are being incorporated into the design, construction and operation of the prescribed activity.

(8) Any person who contravenes this section shall be guilty of an offence and shall be liable to a fine not exceeding one hundred thousand ringgit or to imprisonment for a period not exceeding five years or both and to a further fine one thousand ringgit for every day that the offence is continued after a notice by the Director General requiring him to comply with the act specified therein has been served upon him".

ENVIRONMENTAL QUALTIY (PRESCRIBED ACTIVITIES) (ENVIRONMENTAL IMPACT ASSESSMENT) ORDER 1987*

In exercise of the powers conferred by section 34A of the Environmental Quality Act 1974, the Minister, after consultation with the Environmental Quality Council, makes the following order.

1. Citation and commencement

This order may be cited as the **Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987** and shall come into force on the 1st April 1988.

2. Prescribed activities

The activities specified in the Schedule are prescribed to be prescribed activities.

3. Order not applicable to Sabah and Sarawak in certain prescribed activities

This Order shall not apply in respect of-

(a) the prescribed activities [except item 7(viii)] listed in the First Schedule of the Conservation of Environment)Prescribed Activities) Order 1999 published under the Second Supplementary of the Sabah Government *Gazette* on the 30 August 1999; and

(b) the prescribed activities listed in the First Schedule of the Natural Resources and Environment (Prescribed Activities) Order 1994 published under Part II of the Sarawak Government *Gazette* on 18 August 1994

4. **Items in the Schedule still applicable to Sabah and Sarawak**

Notwithstanding paragraph 3, the prescribed activities listed as Items 2, 5(a) and (b), 8, 9, 10, 12, 13(a), (c) and (d), 15, 16 and 18 in the Schedule shall continue to apply in respect of the State of Sabah and Sarawak.

SCHEDULE

1. **AGRICULTURE:**

(a) Land development schemes covering an area of 500 hectares or more to bring forest land into agricultural production.

(b) Agricultural programmes necessitating the resettlement of 100 families or more.

(c) Development of agricultural estates covering an area of 500 hectares or more involving changes in types of agricultural use.

2. **AIRPORT:**

(a) Construction of airports (having an airstrip of 2,500 metres or longer).

(b) Airstrip development in state and national parks.

3. **DRAINAGE AND IRRIGATION:**

(a) Construction of dams and man-made lakes and artificial enlargement of lakes with surface areas of 200 hectares or more.

(b) Drainage of wetland, wild-life habitat or of virgin forest covering an area of 100 hectares or more.

(c) Irrigation schemes covering an area of 5,000 hectares or more.

4. **LAND RECLAMATION:**

Coastal reclamation involving an area of 50 hectares or more.

5. **FISHERIES:**

(a) Construction of fishing harbours.

(b) Harbour expansion involving an increase of 50 percent or more in fish landing capacity per annum.

(c) Land based aquaculture projects accompanied by clearing of mangrove swamp forest covering an area of 50 hectares or more.

6. **FORESTRY:**

(a) Conversion of hill forest land to other land use covering an area of 50 hectares or more.

(b) Logging or conversion of forest land to other land use within the catchment area of reservoirs used for municipal water supply, irrigation or hydro-power generation or in areas adjacent to state and national parks and national marine parks.

(c) Logging covering an area of 500 hectares or more.

(d) Conversion of mangrove swamps for industrial, housing or agricultural use covering an area of 50 hectares or more.

(e) Clearing of mangrove swamps on islands adjacent to national marine parks.

7. **HOUSING:**

Housing development covering an area of 50 hectares or more.

8. INDUSTRY:

(a)	Chemicals	-	Where production capacity of each product or of combined products is greater than 100 tonnes/day.
(b)	Petrochemicals	-	All sizes.
(c)	Non-ferrous	-	Primary smelting: Aluminium - all sizes Copper - all sizes Others - producing 50 tonnes/day and above of product
(d)	Non-metallic	-	Cement - for clinker throughput of 30 tonnes/hour and above. Lime - 100 tonnes/day and above burnt lime rotary kiln or 50 tonnes/day and above vertical kiln.
(e)	Iron and steel	-	Require iron one as raw materials for production greater than 100 tonnes/day; or
		-	Using scrap iron as raw materials for production greater than 200 tonnes/day.
(f)	Shipyards	-	Dead weight tonnage greater than 5,000 tonnes.
(g)	Pulp and paper industry	-	Production capacity greater than 50 tonnes/day.

9. **INFRASTRUCTURE:**

(a) Construction of hospitals with outfall into beachfronts used for recreational purposes.

(b) Industrial estate development for medium and heavy industries covering an area of 50 hectares or more

(c) Construction of expressways

(d) Construction of national highways

(e) Construction of new townships

10. **PORTS:**

(a) Construction of ports.

(b) Port expansion involving an increase of 50 percent or more in handling capacity per annum.

11. **MINING:**

(a) Mining of minerals in new areas where the mining lease covers a total area in excess of 250 hectares.

(b) Ore processing, including concentrating for aluminium, copper, gold or tantalum.

(c) Sand dredging involving an area of 50 hectares more.

12. PETROLEUM:

(a) Oil and gas fields development

(b) Construction of off-shore and on-shore pipelines in excess of 50 kilometres in length.

(c) Construction of oil and gas separation, processing, handling and storage facilities.

(d) Construction of oil refineries.

(e) Construction of product depots for the storage of petrol, gas or diesel (excluding service stations) which are located within 3 kilometres of any commercial, industrial or residential areas and which have a combined storage capacity of 60,000 barrels or more.

13. POWER GENERATION AND TRANSMISSION:

(a) Construction of steam generated power stations burning fossil fuels and having a capacity of more than 10 megawatts.

(b) Dams and hydro-electric power schemes with either or both of the following:

(i) dams over 15 metres high and ancillary structures covering a total area in excess of 40 hectares;

(ii) reservoirs with a surface area in excess of 400 hectares.

(c) Construction of combined cycle power stations.

(d) Construction of nuclear-fueled power stations.

14. **QUARRIES:**

Proposed quarrying of aggregate, limestone, silica, quartzite, sand-stone, marble and decorative building stone within 3 kilometres of any existing residential, commercial or industrial areas, or any area for which a licence, permit or approval has been granted for residential, commercial or industrial development.

15. **RAILWAYS:**

(a) Construction of new routes.

(b) Construction of branch lines.

16. **TRANSPORTATION:**

Construction of Mass Rapid Transport projects.

17. **RESORT AND RECREATIONAL DEVELOPMENT**

(a) Construction of coastal resort facilities or hotels with more than 80 rooms.

(b) Hill station resort or hotel development covering an area of 50 hectares or more.

(c) Development of tourist or recreational facilities in national parks.

(d) Development of tourist or recreational facilities on islands in surrounding waters which are gazetted as national marine park.

18. **WASTE TREATMENT AND DISPOSAL:**

(a) Toxic and Hazardous Waste:-

(i) Construction of incineration plant.
(ii) Construction of recovery plant (off - site).
(iii) Construction of wastewater treatment plant (off-site).

(iv) Construction of secure landfill facility.
(v) Construction of storage facility (off - site)

(b) Municipal Solid Waste:-

(i) Construction of incineration plant.
(ii) Construction of composting plant.
(iii) Construction of recovery/recycling plant.
(iv) Construction of municipal solid waste landfill facility.

(c) Municipal Sewage:-

(i) Construction of wastewater treatment plant.
(ii) Construction of marine outfall.

19. WATER SUPPLY:

(a) Construction of dams or impounding reservoirs with a surface area of 200 hectares or more.

(b) Groundwater development for industrial, agricultural or urban water supply of greater than 4,500 cubic metres per day.

Made the 30th September 1987.

DATUK AMAR STEPHEN K.T. YONG
Minister of Science, Technology and Environment

List of Prescribed Activities Which Require Detailed EIA

1. Iron and steel industry.
2. Pulp and paper mills.
3. Cement plant.
4. Construction of coal fired power plant.
5. Construction of dams for water supply and hydroelectric power schemes.
6. Land reclamation.
7. Incineration plant (scheduled wastes & solid wastes).
8. Construction of municipal solid waste landfill facility (including municipal solid waste transfer station).
9. Project involving land clearing where 50% of the area or more having slopes exceeding 25 degrees (except quarry).
10. Logging covering an area exceeding 500 hectares or more.
11. Development of tourist or recreational facilities on islands in surrounding waters which are gazetted as national marine parks.
12. Construction of recovery plant (off-site) for lead-acid battery wastes
13. Scheduled wastes recovery or treatment facility generating significant amount of wastewater which is located upstream of public water supply intake.

THE NATURAL RESOURCES AND ENVIRONMENT ORDINANCE (CAP. 84 - LAWS OF SARAWAK, 1958 Ed.)

THE NATURAL RESOURCES AND ENVIRONMENT (PRESCRIBED ACTIVITIES) ORDER, 1994

(Incorporating all amendments up to 31 May 1997)

FIRST SCHEDULE

PRESCRIBED ACTIVITIES

(Articles 2, 3 and 6)

1. AGRICULTURAL DEVELOPMENT:

(i) Development of agricultural estates or plantations of an area exceeding 500 hectares-

(a) from land under secondary or primary forests, or

(b) which would involve the resettlement of more than 100 families; or

(c) which would involve modification in the use of the land.

(ii) Conversion of mangrove swamps into agricultural estate having area exceeding 50 hectares.

2. LOGGING:

(i) Extraction or felling of timber from any area exceeding 500 hectares which have previously been logged or in respect of which coupes have previously been declared to have been closed by the Director of Forests under the previsions of the Forest Ordinance (Cap. 126 (1958 Ed.)).-

(ii) Extraction or felling of any timber within any area declared to be a water catchment area under section 8 of the Water Oredinance, 1994 (Cap. 13).

3. DEVELOPMENT OF COMMERCIAL INDUSTRIAL AND HOUSING ESTATES:

[Amendment, Swk. LN 61, 19 October 1995]

(i) Development of commercial or housing estates of an area exceeding 10 hectares.

[Amendment, Swk. L.N. 16, 29 May 1997

(ii) Development of industrial estates with factories to accommodate medium or heavy industries.

(iii) Conversion of mangrove swamps into industrial, commercial or housing estate exceeding 10 hectares in area.

Amendment, Swk. L.N. 16, 29 May 1997

(iv) Reclamation of land, whether by the sea or along river banks, for housing, commercial or industrial estates.

4. ACTIVITIES WHICH MAY POLLUTE INLAND WATER OR AFFECT SOURCES OF WATER SUPPLY:

(i) Development of groundwater with a supply capacity of 4500 cubic metres per day.

(ii) Construction of dams, artificial lakes or reservoirs with a surface area of 50 hectares for impounding of water.

(iii) Irrigation schemes covering an ara exceeding 1000 hectares.

(iv) Creation of lakes, ponds or reservoirs for the rearing of fish or prawns ,exceeding 50 hectares in area.

(v) Mining, pursuant to any Mining Lease, Certificate or Licence issued under the Mining Ordinance, (Cap. 83 (1958 Ed.)), covering areas exceeding 50 hectares or where mining invlolves the use of chemicals (including explosives) of any nature.

(vi) Diversion of watercourses, streans or rivers or the excavation of sand and other rock materials therefrom.

5. FISHERIES AND ACTIVITIES WHICH MAY ENDANGER MARINE OR AQUATIC LIFE, PLANTS IN INLAND WATERS OR EROSION OF RIVER BANKS:

Fish culture and other forms of fishing on a commercial scale which involve the setting up of fishing appliances and equipment in the rivers or water courses.

6. EXTRATION AND REMOVAL OF ROCK MATERIALS AND MINING:

Amendment, Swk. LN 61, 19 October 1995

(i) Quarrying of aggregate, limestone, silica, quartzite, sandstone, sand, marble and stones which may cause damage or have an adverse impact on fragile ecosystem.

(ii) Open cast mining or prospecting for minerals or any form of mining for minerals which is likely to affect the landscape of the mining area so as to require rehabilitation thereof upon the cessation of mining activities.

Amendment, Swk. LN 61, 19 October 1995

7. ANY OTHER ACTIVITIES WHICH MAY DAMAGE OR HAVE AN ADVERSE IMPACT ON QUALITY OF ENVIRONMENT OR NATURAL RESOURCES OF THE STATE INCLUDING THE FOLLOWING:

(i) Construction of :- [Amendment, Swk. LN 16, 29 May 1997]

(a) parks and recreational facilities or resorts;

(b) building exceeding 4 storeys high for residential purpose; and

(c) building for commercial or other purposes on hill with slopes of 20 degrees or more.

(ii) Establishment of golf courses.

(iii) Construction of port facilities (including warehouses, godowns), container yards and cargo storage facilities) along any of the rivers gazetted under section 11 of the Sarawak Rivers Ordinance, 1993 (Cap. 4).

(iv) Development of resort facilities in areas within the fore shores of Sarawak.

(v) Creation of parks and recreational facilities having an area exceeding 50 hectares for commercial purposes.

(vi) Any development activity intended to be carried out within a water catchment area declared under section 8 of the Water Ordinance, 1994 (Cap. 13).

(vii) Construction of roads through settlements, peatswamp, beachfront, mangrove or hillslopes of 20 degrees or more. [Amendment, Swk. LN 61, 19 October 1995]

(viii) Extraction and removal of earth or clay from an area exceeding 10 hectares and within 3 kilometres of any housing, commercial or industrial area or any area which has been approved for housing, commercial or industrial development. [Amendment, Swk. LN 61, 19 October 1995]

(ix) The establishment of a planted forest under the Forest Ordinance (Cap. 126) (1958 Ed.) [Amendment, Swk. LN 16, 29 May 1997]

(x) The claring of vegetation on any land or the breaking up any land for any purpose of an area exceeding 50 hectares. [Amendment, Swk. LN 16, 29 May 1997]

ENVIRONMENT PROTECTION ENACTMENT 2002

ENVIRONMENT PROTECTION (PRESCRIBED ACTIVITIES) (ENVIRONMENTAL IMPACT ASSESSMENT) ORDER 2005

ARRANGEMENT OF PARAGRAPHS

(i) a mitigation declaration for any of the prescribed activities specified in the First Schedule; or

(ii) an agreement of environmental conditions for any of the prescribed activities specified in the Second Schedule.

(2) Notwithstanding subparagraph (1)(b), the Director may amend, vary, alter, delete or impose any additional conditions, orders or directions.

8. In the event of any breach of undertakings under paragraph 7(b), the Director may by a notice in writing direct that the prescribed activity be ceased. Notice to cease activities.

FIRST SCHEDULE

[Paragraphs 3, 4 and 7]

List of Prescribed Activities Requiring Proposal for Mitigation Measures

1. AGRICULTURE -

(i) Development of agricultural estates or plantations covering an area of 100 hectares or more but less than 500 hectares;

(ii) Development of agricultural estates or plantations involving change in type of crops covering an area of 100 hectares or more but less than 500 hectares; or

(iii) Conversion of wetland forests into agricultural estates or plantations covering an area of 20 hectares or more but less than 50 hectares.

2. FORESTRY-

(i) Felling or extraction of timber covering an area of 100 hectares or more but less than 500 hectares; or

(ii) Development of forest plantation or reforestation covering an area of 100 hectares or more but less than 500 hectares.

3. HOUSING, COMMERCIAL AND INDUSTRIAL ESTATES -

(i) Development of housing, commercial or industrial estates covering an area of 10 hectares or more but less than 50 hectares;

(ii) Conversion of wetland forests into housing, commercial or industrial estates covering an area of 2 hectares or more but less than 30 hectares; or

(iii) Development of housing, commercial or industrial estates within 200 metres from the high-water mark of the coastal area.

4. FISHERIES AND AQUACULTURE -

(i) Conversion of wetland forests into fisheries or aquaculture development covering an area of 10 hectares or more but less than 50 hectares, or

(ii) Creation of lakes or ponds for fisheries or aquaculture development covering an area of 10 hectares or more but less than 50 hectares.

5. QUARRIES -

Quarrying of aggregates, limestone, silica, quartzite, sandstone, sand, marble or stones within 200 metres from any streams or rivers.

6. RESORTS AND RECREATIONAL DEVELOPMENT -

(i) Development of resorts, recreational or tourism facilities covering an area of 10 hectares or more but less than 30 hectares; or

(ii) Development of resorts, recreational or tourism facilities within 200 metres from the high-water mark of the coastal area.

7. ANY OTHER ACTIVITIES WHICH MAY DAMAGE OR HAVE AN ADVERSE IMPACT ON QUALITY OF ENVIRONMENT -

(i) Construction of buildings for public purposes within 200 metres from the high-water mark of the coastal area; or

(ii) Construction of open jetties with a length of 100 metres or more for commercial or public use along rivers or sea front.

SECOND SCHEDULE

[Paragraphs 3, 4 and 7]

List of Prescribed Activities Requiring Environmental Impact Assessment Report

1. AGRICULTURE -

(i) Development of agricultural estates or plantations covering an area of 500 hectares or more;

(ii) Development of agricultural estates or plantations involving change in type of crops covering an area of 500 hectares or more;

(iii) Conversion of wetland forests into agricultural estates or plantations covering an area of 50 hectares or more; or

(iv) Agricultural programmes involving the settlement of 100 families or more.

2. FORESTRY -

(i) Felling or extraction of timber covering an area of 500 hectares or more; or

(ii) Development of forest plantation or reforestation covering an area of 500 hectares or more.

3. HOUSING, COMMERCIAL AND INDUSTRIAL ESTATES -

(i) Development of housing, commercial or industrial estates covering an area of 50 hectares or more;

(ii) Conversion of wetland forests into housing, commercial or industrial estates covering an area of 30 hectares or more; or

(iii) Development of housing, commercial or industrial estates on hills with slopes having gradient of 20 degrees or more.

4. DRAINAGE AND IRRIGATION -

(i) Irrigation schemes covering an area of 500 hectares or more; or

(ii) Drainage of wetland forests covering an area of 50 hectares or more.

5. LAND RECLAMATION -

Reclamation of land by the sea or along river banks for development of housing, commercial or industrial estates, construction of major roads, or other public purposes.

6. FISHERIES AND AQUACULTURE -

(i) Conversion of wetland forests into fisheries or aquaculture development covering an area of 50 hectares or more, or

(ii) Creation of lakes or ponds for fisheries or aquaculture development covering an area of 50 hectares or more.

7. MINING -

Mining including open cast mining for minerals pursuant to any mining lease –

(a) covering an area of 20 hectares or more; or

(b) any form of mining which is likely to affect the landscape of the mining area so as to require rehabilitation thereof upon the cessation of the mining activities, or which involves the use of chemicals or explosives.

8. POWER GENERATION -

Construction of dams and hydro-electric power schemes involving the following-

(a) dams over 15 metres high and ancillary structures covering an area of 40 hectares or more;

(b) artificial lakes or reservoirs with a surface area covering 50 hectares or more; or

(c) diversionof streams, rivers or watercourses.

9. QUARRIES -

(i) Quarrying of aggregates, limestone, silica, quartzite, sandstone, sand, marble or stones for commercial or construction purposes within 3 kilometres of -

(a) any existing settlement, residential, commercial or industrial area, major roads, or any buildings for public purposes, or

(b) any area for which a licence, permit or approval has been granted for development of settlement, residential, commercial or industries area, major roads, or any buildings for public purposes;

(ii) Earth work involving extraction, removal, filling or dumping of earth with a volume of 40,000 cubic metres or more; or

(iii) Excavation or dredging of sand or rock materials from watercourses, streams, rivers, coastal area or sea for commercial or construction purposes.

10. RESORTS AND RECREATIONAL DEVELOPMENT -

(i) Development of resorts, recreational or tourism facilities covering an area of 30 hectares or more;

(ii) Development of resorts, recreational or tourism facilities on hills with slopes having gradient of 20 degrees or more; or

(iii) Development of golf courses.

11. WATER SUPPLY -

(i) Construction of dams, artificial lakes or reservoirs with a surface area of 50 hectares or more for impounding water; or

(ii) Development of groundwater supply with a capacity of 4,500 cubic metres or more per day.

12. ANY OTHER ACTIVITIES WHICH MAY DAMAGE OR HAVE AN ADVERSE IMPACT ON QUALITY OF ENVIRONMENT -

(i) Construction of buildings for public purposes on hills with slope having gradient of 20 degrees or more;

(ii) Construction of major roads or upgrading of major roads involving realignment and widening through settlement, coastal areas or wetland forests, or on hills with slopes having gradient of 20 degrees or more;

(iii) Construction of port facilities (including warehouses, container yards and cargo storage facilities) for commercial use along rivers or sea front; or

(iv) Construction of closed landing jetties for commercial or public use along rivers or sea front.

Made this 23rd day of August 2005.

DATUK ERIC USIP BIN JUIN,
Director of State Environment Protection Department.

List of Prescribed Activities Which Require Detailed EIA

1. Iron and steel industry.
2. Pulp and paper mills.
3. Cement plant.
4. Construction of coal fired power plant.
5. Construction of dams for water supply and hydroelectric power schemes.
6. Land reclamation.
7. Incineration plant (scheduled wastes & solid wastes).
8. Construction of municipal solid waste landfill facility (including municipal solid waste transfer station).
9. Project involving land clearing where 50% of the area or more having slopes exceeding 25 degrees (except quarry).
10. Logging covering an area exceeding 500 hectares or more.
11. Development of tourist or recreational facilities on islands in surrounding waters which are gazetted as national marine parks.
12. Construction of recovery plant (off-site) for lead-acid battery wastes
13. Scheduled wastes recovery or treatment facility generating significant amount of wastewater which is located upstream of public water supply intake.

Sabah Electricity Sdn. Bhd.

Lahad Datu Energy Sdn. Bhd.

NOTIFICATION

DETAILED ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED 300MW COAL-FIRED INDEPENDENT POWER PLANT, SILAM, LAHAD DATU, SABAH BY LAHAD DATU ENERGY SDN. BHD

The Department of Environment (DOE) Malaysia, is reviewing the DEIA report for the above mentioned project. The public is welcomed to give written comments on the report, which can be referred to at the following venues:-

1. Library
   Department of Environment
   Level 1, Podium 3,
   Wisma Sumber Asli
   No. 25, Persiaran Perdana
   62574 PUTRAJAYA
   Tel: 03-88712000

2 Sabah State Library
(Lahad Datu Branch)
Pancuran Road
Lahad Datu
SABAH
Tel: 089-885586

3 Majlis Daerah Lahad Datu
Taman Fajar
Batu 1, Jalan Segama
Lahad Datu
SABAH
Tel: 089-881621

4. Police Headquarters
   District of Lahad Datu
   Jalan Kastam Baru
   Lahad Datu
   SABAH
   Tel: 089-881255

5. All Department of Environment

The public may review the report from 31st March 2008 until 30th April 2008 and forward written comments to the Department of Environment on or before 15th May 2008. The written comments should be addressed to:-

Director General
Department of Environment
Ministry of Natural Resources and Environment
Level 3, Podium 3, Wisma Sumber Asli
No. 25, Persiaran Perdana, Precinct 4
62574 PUTRAJAYA
(Attn: Environmental Assessment Division)
Tel: 03-88712000 Fax: 03-88891045

The public can also purchase this report for **RM 1,500.00** (One Thousand Five Hundred Only) per copy at Ecotone Environmental Management Sdn. Bhd, S uite 912, Block A, Kelana Centre Point, 3, Jalan SS7/19, Kelana Jaya, 47301, Petaling Jaya, Selangor D.E. Tel: 03 -78064640, Fax: 03-78064650

The Executive Summary of the proposed project can be viewed at the Department of Environment's website, www.doe.gov.my

JABATAN BEKALAN AIR
NEGERI SEMBILAN DARUL KHUSUS

NOTIFICATION

DETAILED ENVIRONMENT IMPACT ASSESSMENT FOR THE PROPOSED SUNGAI TERIANG DAM AND ASSOCIATED WORKS, JELEBU NEGERI SEMBILAN BY JABATAN BEKALAN AIR NEGERI SEMBILAN

The Department of Environment (DOE) Malaysia, is studying the report for the above-mentioned project. The public is welcome to give written comments on the report, which can be referred to at the following places:-

1. Library
   Department of Environment
   Level 1, Podium 3, Wisma Sumber Asli
   No.25, Persiaran Perdana
   62574 PUTRAJAYA

2. Police Headquarters
   Districts of Jelebu
   Polis Diraja Malaysia
   71600 Kuala Klawang,Jelebu
   NEGERI SEMBILAN

3. Pejabat Daerah dan Tanah Jelebu
   Kompleks Pejabat Kerajaan Jelebu
   71600 Kuala Klawang, Jelebu
   NEGERI SEMBILAN

4. Perbadanan Perpustakaan Awam
   Negeri Sembilan
   Wisma UMNO Negeri Sembilan
   Jalan Dato' Sheikh Ahmad
   70000 SEREMBAN

5. All Department of Environment
   State Offices

The public may review the report from 3 September 2007 until 2 October 2007 and forward written comments to the Department of Environment on or before 16 October 2007. The written comments should be addressed to :-

Ketua Pengarah
Jabatan Alam Sekitar
Kementerian Sumber Asli dan Alam Sekitar
Aras 2, Podium 3, Wisma Sumber Asli
No.25, Persiaran Perdana
62574 PUTRAJAYA

The public can also purchase this report for RM1,000.00 (Ringgit Malaysia: One Thousand Only) per copy at Jabatan Bekalan Air Negeri Sembilan (JBANS), Tingkat Bawah Blok B, Wisma Negeri, Negeri Sembikan. Tel: 06-765 9510 / 765 9511 / 7659512

The Executive Summary of the proposed project can be viewed at the Department of Environment's website, www.doe.gov.my

EXECUTIVE SUMMARY

INTRODUCTION

In pursuing its goal to provide cost-effective, reliable power to its customers, Sabah Electricity Sdn Bhd (SESB), the Project Initiator is planning to implement a 300MW Power Plant to help meet Sabah's long term energy needs. The proposed project is a development of coal-fired Power Plant in Silam, Lahad Datu, Sabah. The Project Proponent for the development of this power plant is Lahad Datu Energy Sdn. Bhd (LDE), a consortium of TNB Remaco Sdn. Bhd., Eden-Nova, Maser, and Yayasan Sabah, which was awarded by Government of Malaysia and Sabah Electricity Sdn. Bhd (SESB) to develop this project. The project will be developed based on the Independent Power Producer (IPP) concept where the Power Purchase Agreement will be signed between LDE and SESB ("the Off-Taker") for a concession period of 25 years.

STATEMENT OF NEED

The increase in economic activities in the state of Sabah has led to an increase in demand for infrastructure facilities such as electricity. Frequent power disruptions especially in the East Coast of Sabah have affected the business community and have caused inconvenience to the customers. Meanwhile, the high operation costs of diesel generators as a result of spiralling oil prices have convinced SESB to retire its old and uneconomical diesel generators in stages. It is crucial for Sabah to have sufficient power supply due to the rapid development throughout the state, particularly the development of the Palm Oil Industrial Cluster (POIC) in Lahad Datu, education hub in Sandakan, the recently launched Sabah Development Corridor and numerous commercial centres, industrial estates, tourist areas and housing estates. A power plant with a bigger capacity is critically needed. The proposed 300MW power plant in the East Coast will further reinforce and stabilise the Sabah Grid on the East Coast.

PROJECT OPTIONS

In this section various project options considered at the planning stages of the project development. Various alternative options were studied at the initial stages of the project development and comparisons were made, including incorporating suggestions and recommendations by the Federal and State Government Agencies. In the absence of hydroelectric scheme of such scale and commercial natural gas being unavailable in the East

Coast, it was decided that the power plant will use coal as its primary fuel. This includes No Project Options, Project Site Options, Fuel Options, Coal Options, Coal Technological Options and Emission Control Options that are available and chosen for the project. The final options chosen for the project were based on the assessments of socio-economic benefits, environmental cost benefit, and minimum environmental impacts due to the development of the project.

PROJECT DESCRIPTION

The proposed project is a coal-fired IPP will be developed at the abandoned Integrated Timber Complex (ITC) site that had been operated by Pacific Hardwood Sdn. Bhd. in Silam, Lahad Datu District, Sabah. The project will be developed comprising of 4 x 75MW nett units. The power plant complex will comprise of five primary components namely (i) Coal Terminal including coal unloading jetty (for coal barges), offshore conveyor, inland conveyor, coal storage yard and other coal handling facilities; (ii) the main power plant including boilers, steam turbines, generators, and their associated auxiliaries such as circulating cooling seawater chlorination system, water treatment plant and feed water system, environmental control equipment i.e. flue gas desulphurisation plant (FGD) and electrostatic precipitator plant (ESP), and wastewater treatment plant; (iii) ash handling facility including ash silos and pond, (iv) transmission line and switchyard for transmitting power to the Sabah grid; and (v) amenities including administrative building and support facilities.

The proposed project will be situated on 58.93 hectares (145.62 acres) of land partly owned by Yayasan Sabah (YS) and partly State Land to be alienated to YS in Silam, District of Lahad Datu, Sabah. This land is later to be leased to Sabah Electricity Sdn Bhd (SESB) and subsequently sub-leased to Lahad Datu Energy Sdn Bhd (LDE) for the development of the project. The coordinates of the project site are 4° 59' N, 118°-14'E. The site is located about 17 km to the southwest of Lahad Datu town. The access to the site is currently via the logging gravel road about 2.4 km from the junction of Tawau – Lahad Datu Highway.

The project site is fronting fairly deep sea at Darvel Bay conducive for cooling water supply for the power plant and also the operation of jetty for transportation of fuel. The site was formerly housed by the power plant servicing the Integrated Timber Complex (ITC) operated by Pacific Hardwood Sdn Bhd. It was also recently being used as a transit station for export of timber logs from surrounding areas by sea. At present, this complex has ceased as ITC operation and is under going demolition to make way for this project. The power plant will be operated as a base-load plant and the electricity produced will be purchased by Sabah Electricity Sdn. Bhd under the Power Purchasing Agreement (PPA) for a period of 25 years

TOPOGRAPHY

The project site is situated on the south east foothills of the Silam Range in Lahad Datu District. It is surrounded on both north and western side by Sepagaya Forest Reserve. In general the terrain is hilly and undulating to flat lying along the major river valleys. The topography pattern gradually increases in relief from south to northwest and from south to north. Generally, the entire project site is flat areas with a height from 0 m to 100 m. The terrain is characterized by NE-SW trending rolling hills with gentle slopes. Several streams drained the undulating terrain of the site and the main river is Sg. Silam. These streams formed a dendritic and parallel drainage pattern. The dendritic drainage pattern may be controlled by the bedrock fracture pattern such as fault and joints. The hilly to undulating region to the northwest is underlain by cristalline basement rock and ultramafic rock. The undulating to low lying areas to the southwest is underlain by Chert Spilite Formation. The project site is dominated by recent alluvium mainly on the valleys and coastal area.

GEOLOGY AND SOIL

The geology around the project site shows, two major rock associations namely the amphibolite gneisses rock, and ultramafic rock. Amphibolite gneiss rock is well exposed at the main office of Yayasan Sabah and Bt. Silam. Ultramafic rocks occupy a major part of the hilly area mostly and also the lowland area which is overlain by alluvium. The alluvium Quaternary occupies the major part of the project site. The alluvium is believed overlain the Chert Spilite Formation on the Eastern part of the Project site. Most of the outcrop show well exposed serpentinite, having the slickenside structures. The major positive lineament and negative lineament pattern could be a reflection of the major fracture zone of the area with a NE-SW orientation indicated the direction of tectonic force. Overall, the soils behave in between extremely low to high plasticity. The sample classified as extremely low plasticity having very low clay. From the analysis of the particle-size distribution, it shows that generally percentage of the soil in the study area is varied from silt to coarse sand.

The erosion and slope instability are considered as major impacts on geology and soil during the construction phase. Therefore, the soil erosion potential in the project area was calculated using Universal Soil Loss Equation (USLE) to estimate soil loss rate at existing, with control and without control (worst) measures. Based on the modelling results, the existing maximum soil loss rate of 27.51 tons/acre/year will increases drastically to a maximum rate of 182.59 tons/acre/year. However, with necessary control measures including implementing approved construction practices the soil erosion rate can be minimised to 2.54 tons/acre/year.

LAND USE

The most part of the project site was formerly a timber complex belonged to Pacifi c Hardwood Sdn. Bhd (PHSB), a subsidiary of Sabah Foundation. The land is still gazetted as an Integrated Timber Complex. Within the project site, there are several abandoned and demolished buildings previously used by PHSB for their timber processing acti vities, power generation and associated activities. The land use categories within the 5 kilometre radius of the project site consists of the timber transfer station, Sepagaya Virgin Jungle Reserve (VJR), state lands, palm oil plantation / smallholders, fi ve major settlement areas, and aquaculture farms. There are four major islands in the area namely, Pulau Saga, Pulau Saddle, Pulau Laila, and Pulau Baik. Most of the aquaculture farms are located in the islands and a few near the coast. In the master plan for Lahad Datu, the Silam area is targeted as an aquaculture zone and in the future the National Aquaculture Centre (PAN) is planned for the area. Other economic activities are not very prominent in the study area but Silam as a whole has been identified as tourism spots for highland (Mount Silam) and rattan industry. The Federal Road A5 will be upgraded to cover a 12.5 kilometres stretch of dual carriage-way which will be supporting the development of the POIC in Lahad Datu.

LANDSCAPE, VISUAL AND AESTHET IC

The common feature of the area is made up of steep hills with occasional low undulating hills form within the whole five kilometre radius. The highest peak of the area is Silam Hill which is geologically made up of serpentinite and amphibolite rocks. Overall setting of the site can be concluded as a secondary forest area classified as Sepagaya Forest Reserve with adjacent to commercial plantations common to most part of the east coast of Sabah. The geomorphologic nature of the proposed project site is not a popular site for scenic viewing due to long history of timber industry, less cultural feature of outstanding visual and landscape value and no outstanding land mark or landscape feature exist on the or near the proposed project site.

The protection of quality landscape, scenic view, and aesthetic value of an area from adverse impact has been recognized as a legitimate action as well as sustainable policy issue worldwide. Impact to landscape, visual and aesthetic resources resulting from the presen ce of Power Plant within the area is in the interest of the public. The exposed activities associated with any development inevitably pose landscape and visual impacts to the general public and to the image and identity of the area. Most common issue is to what extent the project might affect the visual receptors or viewers. In this particular project, the potential significant impact to the landscape, visual and aesthetic resources is dependent on the level of public visual and physical access to the proje ct area and the phasing of the project operations and implementations.

HYDROLOGY AND DRAINAGE

The topographic feature of the area consists of rugged and steep slopes terrain carved by ephemeral streams. The largest drainage system of the area is Sg. Silam , an intermittent stream and its tributaries initially flow into a reservoir which is the source of raw water for about 40% of the population in the Timber Camp and the whole of the Logging Depot . The river then flows downstream through the project area, serving as the drainage system and finally discharging into the sea. Thus, the drainage system of the area does not play any significant role in the socio-economic development of the study area. The existing erosion rate for the site is very low. This is because the site is made up of massive ultrabasic rocks with gentle slopes and vegetated by undergrowths, shrubs and others trees.

WATER QUALITY

The baseline water quality analysis was carried 29 locations; four located at river / reservoir (freshwater) and 25 located at sea. Eight stations (W3 – W10) were monitored for high and low tides and eight stations (M1 to M7), the marine water was tested at three layers namely surface, middle and bottom. At all stations, samples were analyzed for all 23 parameters specified in Standard B under the Environmental Quality (Sewage and Industrial Effluent) Regulations, 1979 plus *E. coli*, dissolved oxygen and salinity. In addition several in situ parameters and TSS were measures at eight marine sampling stations (S1 – S8) at two different depths by research team from Universiti Malaysia Sabah (UMS). Both of the river water and marine water data analysis were compared against Interim National Inland Water Quality Standards (NIWQS) and Interim National Marine Water Quality Standards (NMWQS) respectively. Water Quality Index (WQI) was calculated for Sg. Silam at the four points of sampling locations using selected parameters. The Water Quality Index (WQI) recorded for station W1A falls under Class II, W1 falls under Class II and Class III, while W2 falls under Class II of INWQS.

There is some variation in marine water quality between but most of the data are well within NMWQS except for pH at Stations W2, W6, W8, and W9. All the heavy metals are well within the IMWQS limit except for mercury at Station W4, W5, and W8. Overall, there are some differences between high and low tides some water quality parameters. Generally, the parameters showed slightly highly values during the high tide as compared to low tides, especially temperature, pH and COD. The dissolved oxygen is slightly low during low tide at stations W3 to W6. The surface temperature of the seawater is well within the range of any tropical water. However, differences in depths do interfere with the level of temperature recorded. Higher temperature was found in the surface and decreased with increasing water depth.

The impacts during the construction phase is mainly related to soil erosion and nutrient runoff affecting coastal water quality and marine ecosystems. However, this could be controlled effectively with appropriate mitigation measures proposed. Meanwhile, the impacts during the operation phase of the project are the spillage of coal during transportation, slurry and waste water runoff or leakage from coal yard and ash pond, blown out dust from coal yard and ash pond, cooling water discharge containing increased temperature and residual chlorine, process wastewater and effluents, sewage and sanitary wastes and finally solid wastes from the power plant. Several control measures will be implemented as part of the project development to limit any discharge to water bodies within the acceptable level.

CLIMATE AND METEOROLOGY

The nearest meteorological station to the project site is in the Tawau Airport. Meteorological data from 2002 – 2006 was collected from the Tawau Airport meteorological station. The annual mean temperature varied from 26.4°C to 26.8°C. Total annual rainfall recorded at the Tawau Airport varied between 122.8 mm (2002) to 219.3 mm (2006). The total number of rainy days ranged from 141 days (2002) to 182 days (2006). Annual mean daily evaporation rate for the period was in the range of 3.8 – 4.4 mm. The annual mean values for daily sunshine hours ranged from 6.8 hours (2006) to 7.4 hours (2002). The annual mean wind speed is 21.1 m/s, which is generally calm. Meanwhile, long term climatic data from Tawau Airport, selected climatic data from Lahad Datu Airport are given in appendix for future reference.

AIR QUALITY

Baseline air quality measurement was carried around the project site at three locations and to test Total Suspended Particulate (TSP), Respirable Particulates (PM_{10}), Nitrogen Dioxide (NO_2), Sulphur Dioxide (SO_2), Carbon Monoxide (CO), Lead (Pb), Arsenic (Ar), and Cadmium (Cd). The total suspended particulate (TSP), and respirable particulate (PM_{10}) concentrations monitored were found to be within the recommended DOE limit of 260 $\mu g/m^3$ and 150 $\mu g/m^3$ respectively with baseline TSP and PM_{10} values are 53 $\mu g/m^3$ and 47 $\mu g/m^3$ respectively. The NO_2 and SO_2 were not detected at all the stations and far below the recommended limit of 320 $\mu g/m^3$ and 105 $\mu g/m^3$ respectively. The CO was also not detected based on 1-hour monitoring, so well within the recommended DOE limit of 30 ppm. The air quality monitored at meteorological station in Danum Valley for the year 2007 was also analysed and given in the report as baseline data for future reference.

The dominant air pollutant emitted during the construction phase would be fugitive dust and exhaust emission. These could be controlled effectively employing good housekeeping and

construction practices, apart from other mitigations measures proposed. However, during the operation phase, the project produces air pollutants including fly ash and coal particles from coal yards and TSS, PM10, SOx, NOx, CO, CO_2 and trace elements from stack emission.

An attempt was made to assess air pollutants for the proposed project. The air quality assessment of the project was divided into two parts, impacts duri ng the construction phase and during the operation phase. The air pollution model used in the assessment of air quality was the US EPA Industrial Source Complex Short Term Version 3 (ISCST3) model. This model is the US EPA's current regulatory model for ma ny New Source Review (NSR) and other air permitting applications. To arrive at the best predicted air pollutant concentration, the latest hourly meteorological data from the nearest meteorological station was used in the modelling. A 12km by 10 km receptor grid was chosen to assess the air quality impact. Three sensitive receptors were identified in the receptor grid and pollutant concentration at these receptors was predicted as well. As the project site is surrounded by the sea to the east and undulating terrain with hills to the west, south and north, the effect of terrain on pollution dispersion was accounted for in the modelling assessment.

During the construction phase, the only air pollutant of concern is total suspended particulate (TSP). Two possible scenarios, a case with control measures scenario and a worst-case without control measures were simulated. From the modelling prediction, the most affected areas are at the construction site areas and area south of the project site which is mainly the sea. The predicted TSP concentrations when there are control measures to reduce emissions are below the ambient air standards. However, in the case when there are no control measures to reduce dust emissions, the predicted TSP incremental concentration is a bove the ambient air standards but only in areas close to the project site.

During the operation phase of the project, a number of air pollutants are emitted by the proposed coal fired power station. The air pollutants of concern are total suspended particulate (TSP), sulphur dioxide (SO_2), nitrogen dioxide (NO_2) and trace elements such as arsenic, cadmium and lead. The concentrations of these pollutants were predicted and assessed for the normal operation with control measures scenario and the worst -case without control measures scenario. In the case of SO_2, the predicted concentrations were based on the highest sulphur content in coal.

The simulations found that particulate matter, as TSP concentrations are below the ambient air standards when the particulate control and removal system is in operation. However, when the particulate control and removal system fails, the predicted TSP concentrations in ambient air exceeds the standards in areas close to and within the power station. TSP emissions from the coal yard are not expected to have any impact on air quality based on the TSP modelling for coal yard.

As for the combustion gases, the predicted NO_2 concentration is below the required ambient air standard and for SO_2, the predicted concentrations are also below the ambient air standards when there are control measures and exceeds the standards when there are no control measures based on the highest sulphur content in coal. With the introduction of the FGD the SO_2 level will be well below the ambient air standards.

Long term average trace elements such as arsenic, cadmium and lead concentrations were predicted using emission factors for assessment of health impacts, though these trace elements are not detected in the three brand of coal proposed for the project. Long term average concentration of trace elements such as arsenic, cadmium and lead is negligible and insignificant as these elements are not detectable in the coal samples.

Moreover, although the Danum Valley is more than 20 kilometres away by air and 67 kilometres by road, the impact of emissions from the proposed coal -fired power station was assessed. As distance from the source is the main determinant, the SCREEN3 Model was used in the assessment. The predicted 1-hour average TSP concentration is highest at a distance of 1 km from the source and decreases exponentially with distance to less than 20 ug/m^3 at 20 km from the source. This shows that the 1 -hour average TSP concentration in the Danum Valley area is expected to be less than 20 ug/m^3. The predicted 1-hour average SO_2 concentration in the Danum Valley area is less than 10 ug/m^3 when there are control measures (DOE limit 350 ug/m^3). However, when there are no control measures to reduce TSP and SO_2 emission, SCREEN modelling predicted that the TSP concentration in the Danum area can be as high as 222 ug/m^3 and SO_2 can reach 63 ug/m^3. NO_2 concentration is expected to be not more than 11 ug/m^3 (320 ug/m^3).

NOISE

A total of ten noise monitoring stations were selected to establish the existing baseline noise levels near the proposed project area. Minimum duration of fifteen minutes L_{Aeq} noise levels, at those monitoring stations varied from 42.7 dBA to 68.7 dBA during day time, and 38.6 dBA to 53.1 dBA during night time. These levels are representative of the existing baseline noise levels at the proposed project area. Only station N7 which is located near the entrance of the proposed site indicated noise level above the stipulated limit during the day time.

Noise level at the surrounding areas of the proposed project site will increase during construction stage due to the following activities: site clearing, earthworks, reclamation, and construction of structures, piling, and transportation of construction equipment. Noise level at the nearest residential area is expected to reach between 45.6 dBA to 67.4 dBA due to site clearing, earthworks, reclamation and construction work. At 50 meters from the roadside the noise level may increase up to 75.1dBA due to truck movements in the public roads.

The predicted noise level at the nearest affected resident s at Kg Soaiun, upon the operation of the proposed power plant project is 60.6dBA. The increase in noise level which is the difference between predicted future noise level and existing mea sured noise level is 11.7dBA. This increase in noise level is considered high but still well within the DOE boundary noise limit of 65dBA. Meanwhile, the residents of the Kg. Soaiun will be relocated away from the project site, the area become a buffer and there is no residents closer to the project site.

COASTAL HYDRAULICS AND HYDRODYNAMICS

The shoreline in Silam area is made up rocky headlands surrounded by corals. Where there are deposits of fine silt and mud, disturbed or regenerating mangroves can be found along the coast. The area is in a bay within a bay. Therefore, there is very little wave action and currents due to tides. There is no evidence of erosion due to waves or currents along the shoreline around the site. The spring tide range is 1.68 m while the neap tide range is around 0.42 m. These low tide ranges account for the slow currents that occur in the bay. In situ data collection shows that the current speeds rarely go beyond 0.04 m/s and in most cases the current speeds are around 0.02 to 0.03 m/s.

At the outlet, 21 m^3/s of water at 8°C above ambient will be discharged. Since the intake seawater temperature is not expected to exceed 31°C at this location, this will ensure that the cooling water discharge will not exceed 40°C.. The movement of the plume was modelled for 2 scenarios. The first scenario was for wind from the north at 2.5 m/s and the second scenario was for the wind blowing from the west at 2.5 m/s. The first scenario would be important for the cooling water intake while the s econd scenario would be important to check the impact on the nearest aquaculture farm to the project site. In both cases it was found that the water temperature at the intake point and the fish cages are not more than 1°C above ambient, therefore, it was advised to extent the cooling water intake further south around 100 m from the current location.

Modelling of chlorine for both arrangements were carried out. The modelling assumes a concentration of 2mg/l at the CW discharge point. This only occurs when chlorine is put into the system to prevent marine fouling. This situation will occur for 24 hours every 7 days. It is found that for both cases of wind, the chlorine plume will not travel very far due to the slow currents in the area. The chlorine will st ay just around the discharge point and the decay process will reduce the concentration as the chlorine diffuse and dissipates away from the the discharge point. The level of concentration at the fish cages will be close to zero and therefore negligible.

Some soil erosion will occur during construction. It is important that the suspended sediments due to the soil erosion do not escape into the main bay and cause environmental damage. It is assumed that appropriate measures to reduce concentration of the su spended sediments such as stilling basins, sediment traps and silt curtains have been provided at site. The measures taken will ensure that the suspended sediment concentration at the point of discharge is 50 mg/l. It was also assumed that the point of dis charge would be the mouth of the small stream that discharges into the bay. Modelling was carried out for similar wind conditions as used for the chlorine and temperature modelling. It was found that the sediment plume will mainly be concentrated in the waters just off the site and will not affect the nearest fish cage culture.

TERRESTIAL ECOLOGY

The project site which was formerly an integrated timber complex is surrounded by Sepagaya VJR on the north and Darvel bay on the south. The Sepagaya VJR was previously a Lowland Mixed Dipterocarp Forest (MDF). However, due to logging activities, after 1984, most parts of the virgin reserve had then become secondary forest. The land within the project site was cleared for factory and staffs settlement building. Therefore, there is no significant terrestrial habitats within the project site. The vegetation within the project site is dominated by *Acacia* spp. and grasses. *Macaranga tanarius*, *Lantana camara* and *Leucaena leucocephala* are also abundant. Residents also planted several fruits trees for example *Nephelium lappaceum* (rambutan) and *Artocarpus heterophylls* (nangka). Several dipterocarp trees (eg. *Shores* spp. and *Parashorea malaanonan* with dbh less than 50cm) are found in Sepagaya VJR around the project site. No wildlife was found within the project site. Some common reptiles such as monitor lizards (biawak) and small mammals such as rat (tikus) were seen within the site. Macaque (kera) and squirrel (tupai) were seen in the secondary forest outside the project site.

WETLAND ECOLOGY

There is no important or gazetted wetland either in or around the 5 km radius of the project site. There are some disturbed or regenerating mangrove can be found along the coast of project area. The mangrove areas within and around the project site are disturbed and logged over. Most of the mangrove trees are small due to c onstant clearance and cutting. The most common mangrove plants found are *Rhizophora mucronata*, *R. apiculata*, *Sonneratia* sp. and *Avicennia* sp. No wildlife was found in the wetland area within and around the project site. The nearest wetland forest reserve is Kuala Tingkayu Forest Reserve (Class V Mangrove Forest Reserve) which is 7 km to the south-east of the project site.

MARINE ECOLOGY

The Silam area is a unique geographical location in Darvel Bay consisting of many islands (P.Baik, P. Laila P. Saddle, P. Saga) with rich marine organisms. The coastline of Silam area is covered with regenerated secondary mangrove. Occurrence of seagrass (*Enhalus sp* and *Halophila sp*) are patchy or in scanty condition. However, *Halophila sp* meadow was found in Station 2. Seaweed consists of *Sargassum sp* and *Padina sp* are found at most of shallower areas. Good coral reef can be found at deeper water around islands but some coral at shallow area were destroyed by destructive fishing methods in the past. Dominant species in phytoplankton and zooplankton were *Cheatoceros spp*: (84%) and *nauplius* stage (33%), respectively. Commercial fishing gears (e.g bagang and gill net) and coa stal communities often spotted fishing in this area.

Suitable weather and rich plankton community are the main factors for fast development of fish cages culture in this area. Currently there are 9 commercial fish cages culture activities found within this area. Most of these aquaculture fishes are exported to Hong Kong, China and Taiwan. The success of this project has attracted foreign investors. The seaweed projects by Fisheries Department, Lahad Datu District and Sabah Ministry of Rural Development ar e located within 5 km radius of the project site. Potential area for marine eco-tourism development is mainly located in the nearby island. Diving and snorkelling activities are located at a shipwreck in Baik Island and shallow water around the island, respectively. Currently, the Department of Fisheries has identified three zones (Dewata, Silam and Bakapit) in Darvel Bay as a part of the National Aquaculture Centre (PAN).

The impact on marine ecology during the construction phase can be effectively cont rolled as discussed in the water quality section. Similarly, the impacts during the operation phase. The impacts discussed in the water quality section would have direct impact on marine ecosystem due to water quality deterioration. However, the main issue s of concern during the operation phase are the discharge of cooling water with increased temperature and residual chlorine . The "once through" cooling water discharged from the outlet pipes of the power plant will have a slightly higher temperature than at the intake point (present ambient water temperature is in the range of 29°C - 31°C). The cooling water system must be efficient and capable of reducing the temperature of the discharged water. The design of discharge sea water temperature shall not exceed 40°C in compliance with DOE requirement. Similarly, the chlorine concentration in the discharge water should be below the concentration that affects the physiological mechanisms of marine biota.. The dispersion modelling study indicated that the temperature will be contained within the Soaiun bay with maximum temperature 1degee C at the nearest aquaculture farm. The chlorine dispersion will also be contained within the Soaiun bay and not reach the nearest aquaculture farm.

SOCIO-ECONOMY

The study area has five major settlement areas – Kg. Teluk Soaiun, Kg. Silam / Silam Lama, Kg. Lamak, Kg. Bumiputera and Taman Maju Jaya with estimated population size of around 4,500 people. The population works as labourers, smallholders, fishermen, and self-employed. The main economic activities in the area are palm oil plantation / smallholders and fishery / aquaculture. It is estimated about 800 fishermen live in the area especially in Kg. Silam / Silam Lama. They catch fish like *lumahan, kulisi, tulai, kulapuk, a kung and squid* which are sold at local markets. Offshore in the nearby islands, there are 9 aquaculture farms (cages) covering about 500 ha area and involving around 400 workers. The annual turnover is about 80 metric tonnes valued more than RM120 millions (2006 & 2007). The fish are exported to Hong Kong, China and Taiwan.

A survey was done on 196 respondents from the area. The respondents are mostly between 36-45 years (35.2 percent), males (65.8%), Muslim (79.6), Malays (47.4 percent), married (87.8 percent), have secondary level education (39.8 percent), labourers (54.6 percent), with monthly income between RM500-RM1199 (53 percent) and have stayed in the area between 21 to 30 years (21.9 percent). On the environmental awareness and perception, curren tly there are issues such as flies nuisance, mosquito, dust, odour problem, traffic noise, bird nuisance, dirty surface water and rat nuisance.

Perception and awareness of the proposed project was also assessed. The survey findings show that about 65.3 percent of the respondents do not agree with the project, 18.4 percent agree and 16.3 percent are indifferent. The reason for them not to agree with the project is not because of the project itself, but rather on the issue of relocation of villagers especia lly at Kg. Teluk Soaiun, the former staff quarters for Pacific Hardwood Sdn. Bhd. which had ceased operation in the area. They demand the authorities to provide them with new houses at a new location if they were to be directed to move out from the village .

Stakeholders analysis are also conducted among the planters / smallholders, fishermen, aquaculturists, environmentalists and local authorities. The environmentalists show strong rejection to the project due to aquaculture, marine ecology particularly p erceived impact on coral and fishery, perceived impact on Danum Valley and perceived impact on public health. The other groups do not show much worries about the project and some of them are giving full support for the proposed power plant to help the deve lopment of Lahad Datu as major palm oil hubs and aquaculture zone.

Minimum impacts can be expected during the construction phase of the project which includes dust, noise and traffic which can effectively be minimized to acceptable level with appropriate mitigation measures. Similarly, impacts during the operation phase are mainly positive impacts which include uninterrupted power supply to East Coast of Sabah,

employment opportunities, business opportunity to locals, investment opportunity and increase in revenue to District and State. The other perceived negative impacts especially on water quality, air quality, noise, marine ecology, public health, etc are addressed in the relevant sections.

PUBLIC HEALTH

The existing health status of the population residing near the proposed coal-fired power station was determined through health survey and review of secondary data from the nearest health facility. The health survey was conducted in November 2007 and January 2008 by trained interviewers using a standardised questionnaire. A total of 196 respondents from six residential areas within 5km radius from the proposed station site were surveyed. Majority of these respondents were men (66%) and of Malay ethnicity (48%). Their basic amenities were fairly good. Majority of them (95.4%) sought medical treatment from the government health facilities. A total of 90.9% respondents claimed to be in healthy conditions. The most common acute illnesses among the family members were fever, cold and asthma with the prevalence rates of 2.55%, 1.84% and 1.53% respectively. The prevalence rate of asthma among the respondents was 3.6%. The secondary data from the nearest health clinics showed increasing number and rates of respiratory diseases and conjunctivitis cases from 2 004 to 2006, however with a decreasing trend of cardiovascular diseases. Their main infectious diseases based on the surveillance data were tuberculosis, malaria and dengue fever.

The potential health impacts from the proposed station were assessed using the health risk assessment (HRA) methodology. The criteria pollutants such as PM_{10}, SO_2 and NO_2 (acute and chronic effect) are the major hazards of concern. Inhalation is the most important exposure route for these pollutants. The health risks for these pollutants were estimated based on the estimated ground level concentration (GLC) that were compared to the health reference values. A value more than 1 indicates a significant health risk to the exposed population. During construction, with the normal dust control measure, the GLCs of the criteria pollutants are unlikely to affect the health (acute and chronic) of the population.

During operational phase, especially in the worst case scenario, the highest risks from PM10 were on the occurrence of respiratory symptoms, asthmatic attack among children, and hospital admission for respiratory diseases predicted at Kg. Soaiun, followed by Taman Maju Jaya and Kg Silam Lama. The systemic health risk of the lifetime average exposure to arsenic, cadmium and lead from the proposed station was calculated for hazard index. Hazard index exceeding 1, indicates a significant health risk. It was found that none of the hazard index exceeded 1. Therefore, there would not be any systemic health risk posed to the community within 5 km radius. Risk for cancer to residents was calculated by multiplying the predicted lifetime average concentration (LAC) of air pollutants with air URF. It is estimated

that the lifetime cancer risks for all receptors are all below the universally ac cepted risk level for lifetime excess cancer risk (<1 in a million populations).

TRAFFIC AND TRANSPORTATION

The road Tawau and Lahad Datu highway is the only main road that is accessible to the proposed power plant in Silam. This is a major federal t runk road in Sabah and is officially known as Federal Road A5. The project site itself is about 2.4 km from the Tawau-Lahad Datu segment of the A5 federal road. It is now only accessible by a logging gravel track. The road surface is not smooth and ride qu ality on the road is very poor.

The marine approach channel to the power plant is via Darvel Bay. The bay where the coal carrying barges will unload their cargo and turn around for their return journeys is Soaiun Bay. The power plant itself will be loc ated north of Soaiun Bay. There appear to be no physical encumbrances via this approach channel in Darvel Bay to the project site. The current traffic on the approach channel consists of foreign -owned log carriers parked in the open sea. Barges carry logs from the timber jetty in Soaiun Bay to these vessels moored in open sea. The volume of shipping traffic at Silam is very low with only 4 vessels were recorded as calling in Silam Harbour during the month of January 2007, which is considered the average monthly traffic by the Marine Department

QUANTITATIVE RISK AND HAZARD ASSESSMENT (QRHA)

A Quantitative Risk Assessment (QRA) was conducted on the proposed 300MW coal -fired power plant. The analysis involved hazard identification, QRA, probability estimatio n, consequence modelling, risk estimation and evaluation and risk management. Fuel used for the boiler at the power plant is sources for potential hazards. Among the potential hazards is fire outbreak at the coal storage yard and burner gallery, explosion at the crusher or pulverize coal silo, explosion at the boiler unit and fire outbreak at the fuel oil tankfarm. Results of the QRA concluded that the only potential occurrences of fire outbreak at the coal storage yard and at the fuel oil tank farm storage facility.

The damaging impact of a pool fire is thermal effect, primarily through the thermal radiation from the flame surface. The effects of fire are estimated based on the released conditions, flammability and / or properties of the material and l ocal meteorological conditions. The risk associated with proposed facility is estimated based in the probability of occurrence of the identified incident outcomes and fatal probability of a receptor at some distance away from the facility. The result of the risk estimation is plotted in the form of risk contour. The voluntary and involuntary risk contour of the proposed project is within the compound of the

proposed plant and do not encroach into any sensitive areas. Thus, the risk level posed by the proposed facility satisfies The EIA Guidelines for Risk Assessment (2004) and should be considered safe to the surrounding population. Even though the risk level posed by the facility is acceptable, the project proponent should have a risk management system in p lace for safe operation of the facility.

ENVIRONMENTAL COST BENEFIT ANALYSIS

The proposed project is expected to positively contribute towards the state economy by meeting the needs of the growing population and expanding economy . Project implementation will, however, give rise to negative environmental impacts that cannot be completely mitigated thus justifying the need to quantify the degradation in services obtainable from the disturbed natural environment. The main goal of the ECBA is to provide an evaluation as to whether the project will bring a net overall gain or loss to society from the environmental stand point. This study adopts the impact pathway approach (IPA) where the physical environmental impacts are linked to an economic valuation proce ss.

Five environmental impacts have been identified to be significant enough to be considered for evaluation. These are increase in air pollution, increase in carbon emission, degradation in marine water quality, increase in noise level and higher exposur e to risk of injury and death to surrounding population. The last impact is evaluated as a precautionary measure since the impact is not very likely. All impacts are negative. Of the five impacts, two were subsequently quantified (increase in air pollution and carbon emission), two were deemed to be insignificant while one (degradation in marine water quality) is considered to be extremely difficult to quantify because of the uncertainty in its consequence. After discounting at the rate of 8%, the project will bring about a net loss amounting to -RM20,976,664 over a 30-year period. The corresponding value is equal to -RM31,026,957 if a 4% rate of discount is used. The net negative benefit is mainly attributable to SO_2 emission that affects human health.

RESIDUAL IMPACTS

The residual impacts are defined as potentially significant long -term environmental impacts which remain even after mitigating measures have been introduced. These impacts are considered to be permanent and long-term, which might occur during the construction and operational phases of the 300MW Coal -Fired IPP Power Plant and are likely to affect the three major environmental components, i.e. physical, biological and human environment. Impacts of this nature are a consequence of the transfor mation in land use from the former to the proposed. These residual impacts require closer investigation and are managed by

developing a well-defined environmental monitoring programme which should be implemented during the construction and operational phas es of the project.

ENVIRONMENTAL MANAGEMENT PLAN (EMP)

A comprehensive Environmental Management Plan (EMP) for the 300MW Coal -Fired Power Plant project shall be prepared to effectively manage all potential issues and impacts identified in this report and monitor the project activities and the implementation of mitigation measures at the site during both cons truction and operational phases of the project. This is to ensure environmental objectives are met and all activities relating to the implementation of the project are carried out in an environmentally sustainable manner. The document will provide specific guidelines on steps that need to be performed by the project proponent to ensure that mitigation measures recommended in this report, the EIA app roval conditions and any other requirements imposed by the DOE are implemented.

EMERGENCY RESPONSE PLAN (ERP)

The ERP is a formal document that identifies the potential emergency conditions at the facility and specifies pre-planned actions to be followed to minimise property and environmental damages and loss of life. An Emergency Response Plan (ERP) is an essential component of a facility's safety and loss strategy. It provides an organized structure for a chain of action to be put into motion in the ev ent of an emergency at the site. An emergency, in the context of the ERP, is defined as an incident which has the potential to cause injury or loss of life, and / or damage to property and the surrounding environment. A detailed EER need to be prepared and submitted for DOSH approval both for construction and operation phases of the project.

PROJECT ABANDONMENT

Project abandonment means when the whole project or a part of the project has to be abandoned for specific reasons. Abandonment could happen at any stage of the proposed project. Abandonment during the planning stage would not result in any significant financial losses other than costs incurred for undertaking various studies and planning. Abandoned structures and machinery could be a health haza rd to the public and cause negative impacts to the surrounding environment if left exposed, such as soil erosion and surface run -off. The Project Proponent shall be responsible to institute all necessary remedial measures required for protection and conservation of environmental quality.

ENVIRONMENTAL LEGISLATIONS AND GUIDELINES

A review of the environmental laws, statutes and guidelines which protect three major environmental components of the biosphere, namely air, soil and water, and control of man - made pollutants, namely gaseous emissions, solid waste disposal, noise and vibration, and domestic and industrial waste discharge levels, are necessary for the project proponent to understand and institute follow-up measures during the project implementation stage. These norms or mandates will constitute the principal guidelines and criteria upon which project induced environmental impacts can be evaluated for severity, and levels of mitigation are proposed and implemented. The principal guidelines upon which possible significant and non-significant environmental impacts can be evaluated for their short -term, long-term or permanent effects on the environment are outlined in this section. The Standards, Regulations and Guidelines promulgated by the Malaysian Gov ernment Agencies are given precedence, and in the absence of existing guidelines those adopted by other countries can be considered.

CONCLUSION

The Detailed Environmental Impact Assessment study has attempted to identify and assess the environmental impacts with respect to physical, biological and socio – economic issues associated with the development of the 300MW Coal-Fired IPP project at Silam, Lahad Datu, Sabah. The deductions and interpretations made here are based on the best available information and the studies carried out specifically for the project as outlined in the chapters of this DEIA report.

DETAILED EIA FOR BEACH RECLAMATION AT TANJUNG API, KUANTAN - A SOCIO-ECONOMIC STAKEHOLDER SURVEY 2007

A. PERSONAL PARTICULARS

1. Name of Respondent: .....

2. Address: .....

3. Distance from project site: ☐ 0-3 km ☐ 3-5 km

4. Age: ☐ years 5. Sex: ☐ 1.Male 6. Ethnicity: ☐ 1.Bumiputra 2.Chinese 3.Indian 4.Others
.....
..... 2.Female

7. Employment Status: (only age 21-64) 1. ☐ Public sector 2. ☐ Private sector 3. ☐ Unemployed
4. ☐ Student 5. ☐ Retiree 6. ☐ Others

8. Occupation: .....

9. Income Group: 1. ☐ ess than RM 1,000 2. ☐ M1,001-RM2,000 3. ☐ M2001-RM3,000
4. ☐ RM3,001-RM4,000 5. ☐ RM4,001-RM5,000 6. ☐ Over RM5,000

B. ASSESSMENT OF CURRENT SITUATION

How do you rate the *current situation* of the following elements in your area:

			Good	Average	Not Good	Could be improved
1.	Social situation	1	☐	☐	☐	☐
2.	Environmental condition	2	☐	☐	☐	☐
3.	Employment prospects	3	☐	☐	☐	☐
4.	Water supply	4	☐	☐	☐	☐
5.	Power supply	5	☐	☐	☐	☐
6.	Sewerage system	6	☐	☐	☐	☐
7.	Economic development	7	☐	☐	☐	☐
8.	Housing needs	8	☐	☐	☐	☐
9.	Quality of life	9	☐	☐	☐	☐
10.	Public Transport	10	☐	☐	☐	☐
11.	Health	11	☐	☐	☐	☐
12.	Safety	12	☐	☐	☐	☐
13.	Social problems	13	☐	☐	☐	☐
14.	Culture / traditions	14	☐	☐	☐	☐
15.	Access to amenities	15	☐	☐	☐	☐

Would you support any economic development in your region if it brings about social development as well? (eg. better quality of life, employment opportunities, better housing, etc)

Yes ☐ No ☐ Not sure ☐

If "No" please give your main reason (s)

a. .....

b. .....

If "Yes" would you support the proposed reclamation project at Tanjung Api, Kuantan, undertaken in accordance to stringent environmental controls?

Yes ☐ No ☐ Not sure ☐

(Irrespective of your answers to **Questions 3 and 4** above please attempt ***all*** the questions in **Section C** below)

C. PERCEPTIONS, VIEWS AND OPINIONS ON IMPACT OF PROJECT

1. If the project considered beneficial to the community, in general, and to Kuantan, in particular, which of the following you see as important in generating potential benefits after the reclamation is completed and the project becomes operational?

	Elements	Important	Not Important	Not Sure
1.	Greater employment opportunities	☐	☐	☐
2.	Increased commercial activities	☐	☐	☐
3.	Increased residential space	☐	☐	☐
4.	Better recreational facilities	☐	☐	☐
5.	Increase in tourism activities	☐	☐	☐
6.	Accelerated growth of Kuantan	☐	☐	☐
7.	Expedite economic growth of the region	☐	☐	☐

2. How do you perceive this proposed project to ***impact*** the following elements in your area, first at the ***construction phase*** and later the ***operational phase***? Please tick (✓) all. (***Construction phase*** includes reclamation and constructions of buildings; ***Operational phase*** is when all proposed activities are fully functional and operational)

1. Environment	Construction				Operational			
	Beneficial Impact	Little / No Impact	Adverse Impact	Not Sure	Beneficial Impact	Little / No Impact	Adverse Impact	Not Sure
1. Landscape	☐	☐	☐	☐	☐	☐	☐	☐
2. Air quality	☐	☐	☐	☐	☐	☐	☐	☐
3. Water quality	☐	☐	☐	☐	☐	☐	☐	☐
4. Siltation	☐	☐	☐	☐	☐	☐	☐	☐
5. Noise	☐	☐	☐	☐	☐	☐	☐	☐
6. Flooding	☐	☐	☐	☐	☐	☐	☐	☐
	Construction				Operational			

2. Social	Construction: Beneficial Impact	Construction: Little /No Impact	Construction: Adverse Impact	Construction: Not Sure	Operational: Beneficial Impact	Operational: Little / No Impact	Operational: Adverse Impact	Operational: Not Sure
1. Community harmony								
2. Tranquility								
3. Built Environment								
4. Traffic								
5. Health								
6. Social Problem (crime/drug)								
7. Foreign Workers								

3. Economy	Construction: Beneficial Impact	Construction: Little or No Impact	Construction: Adverse Impact	Construction: Not Sure	Operational: Beneficial Impact	Operational: Little / No Impact	Operational: Adverse Impact	Operational: Not Sure
1. Household and personal incomes								
2. Employment opportunities								
3. Quality of life								
4. Modernisation of kampong								
5. Land/property values								
6. Access to amenities and transport								
7. Existing economic activities								
8. Hotels & restaurant & tourism								

4. Infrastructure	Construction: Beneficial Impact	Construction: Little or No Impact	Construction: Adverse Impact	Construction: Not Sure	Operational: Beneficial Impact	Operational: Little / No Impact	Operational: Adverse Impact	Operational: Not Sure
1. Housing (supply)								
2. Sewerage								
3. Waste Disposal								
4. Amenities								
5. Road condition								
6. Road/sea transport								
7. Public transport								

3. Which of the following mitigation measures (by degree of criticality) should be taken to offset the likely *adverse Impact* at the construction and operational phases.

1. Construction Phase	Critical	Not critical	Not needed	Not sure
1. Supervised activities to ensure minimum disturbance to environment and to residents				

2.	Use dedicated road for lorries, tippers and movement of machinery				
3.	Ensure sufficient housing quarters for construction workers				
4.	Sufficient water, power and waste disposal facilities				
5.	Ensure minimal noise and dust pollution				
6.	Ensure minimal damage to public roads				
7.	Do not create traffic congestion				
8.	Ensure safety (crime) of surrounding kampung/town residents				
9.	Minimum disturbance to normal road and sea traffic				
10.	Controlled discharge into sea and rivers				
11.	Proper disposal of construction waste				

2. Operational Phase

		Critical	Not critical	Not needed	Not sure
1.	Free and easy access.				
2.	Sea frontage should be accessible to public				
3.	Bio-diversity of the environment need to be sustained				
4.	Sufficient opportunities for locals to live, and carry out economic activities				
5.	Proper landscaping to keep the pristine ambiance of the area.				
6.	Affordable houses need be provided for all groups of the community.				
7.	Reclamation configuration must not hinder current sea traffic movements				
8.	Controlled discharge of waste into sea and rivers				

Signature:

.....

Respondent:.....

No. Tel:.....

Signature:

.....

Enumerator:.....

Figure 1: The Project Cycle and Integration of Environmental Activities

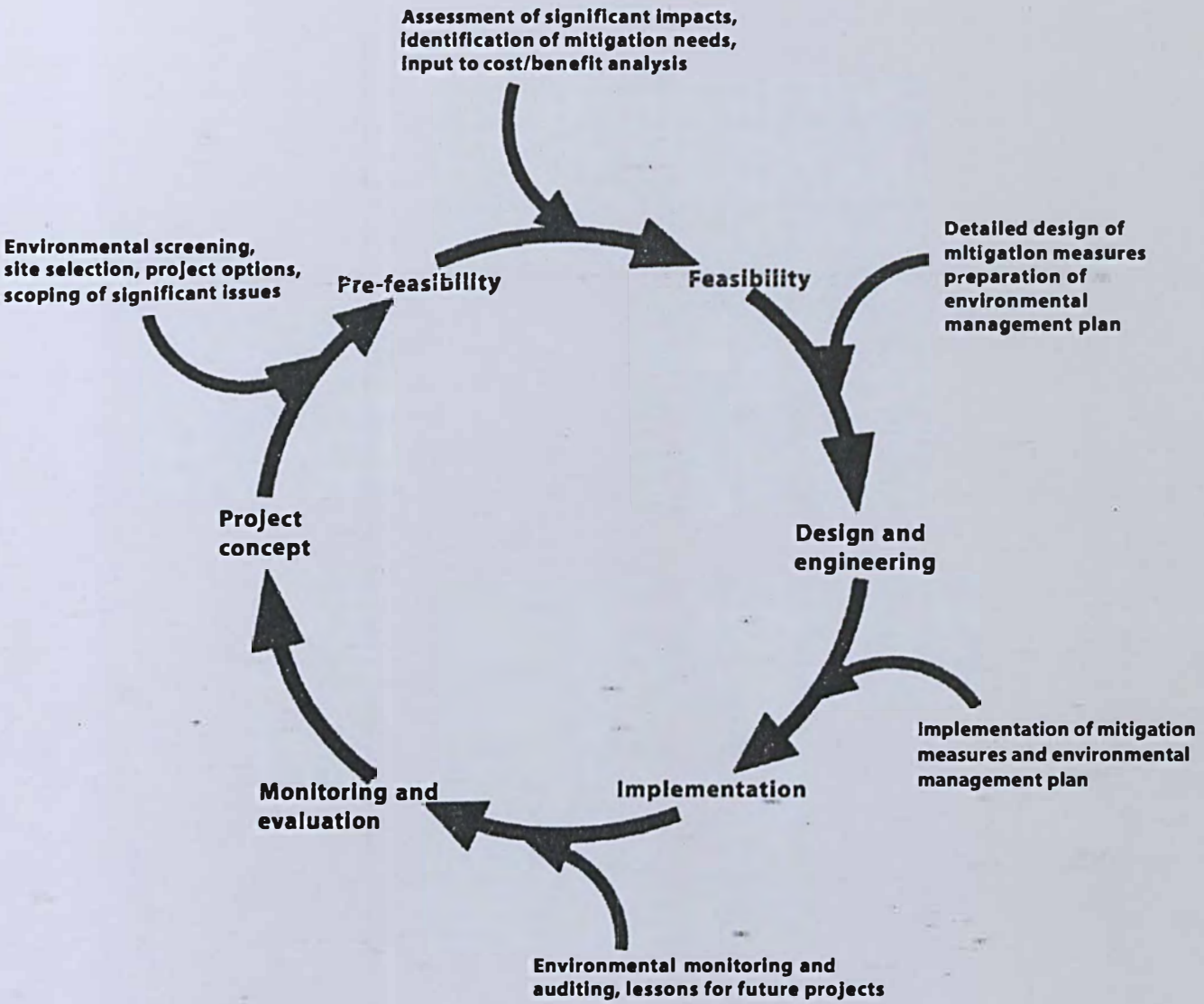
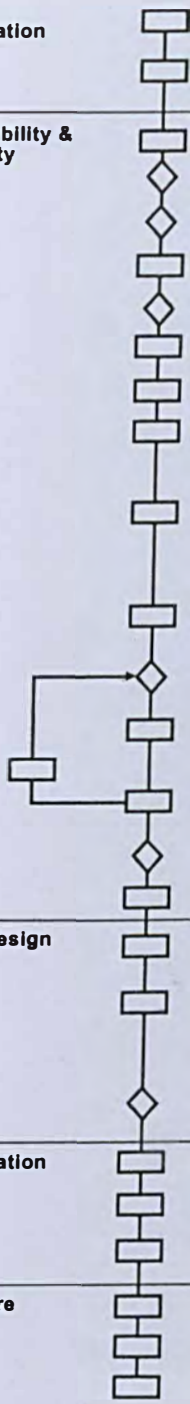


Figure 2: Sequence Of Activities Required For Planning Approval And Compliance With Environmental Approval Conditions And Indicates Who Is Responsible For Various Activities.



STAGE	ACTION	BY WHOM
Project identification	Reconnaissance survey	Project Proponent (PP)
	Consultation with DOE/MIDA	PP
Pre-feasibility & Feasibility	Identification of site(s)/Project Options	PP
	Screening of Site selection	PP & EIA Consultant
	Scoping EIA	PP & EIA Consultant
	Conceptual Plan(s)	Project consultant appointed by PP
	Selection of option	PP
	EIA Study	EIA Consultant
	Submission of EIA to DOE for approval	PP
	Application to Approval Authority for project approval, and to Land Office (LO) for conversion, if necessary	PP
	DOE & Land Office sends EIA and land Conversion submission,respectively, to various public sector agencies for comments	DOE (for EIA) LO (for land conversion)
	Comments compiled, and recommendations made	DOE & LO
	Decision on EIA	DOE
	PP informed of EIA approval/conditions	DOE
	Key issues EIA (if necessary)	EIA Consultant
	Recommendations made to Approval Authority	LO
	Decision on project	Approval Authority
	PP informed of project approval	Approval Authority
Detailed design	Detailed layout and engineering design	PP
	Submission to LO, JPBD and various agenciec (e.g. JKR, JPS, DOE, TNB,MOH, Bomba, etc) for approval	PP
	Approval of detailed layout by referred agencies	Individual agencies referred to
Implementation	Contruction	PP
	Operation	PP
	Environmental Monitoring and Auditing (EM &A)/ Reporting	PP/DOE/Consultant
Post-closure	Decommisioning	PP
	Ongoing EM & A (as necessary)	PP/DOE/Consultant
	Post Closure Landuse Plan	PP

FIGURE 1.1 : ENVIRONMENTAL IMPACT ASSESSMENT PROCEDURE IN MALAYSIA

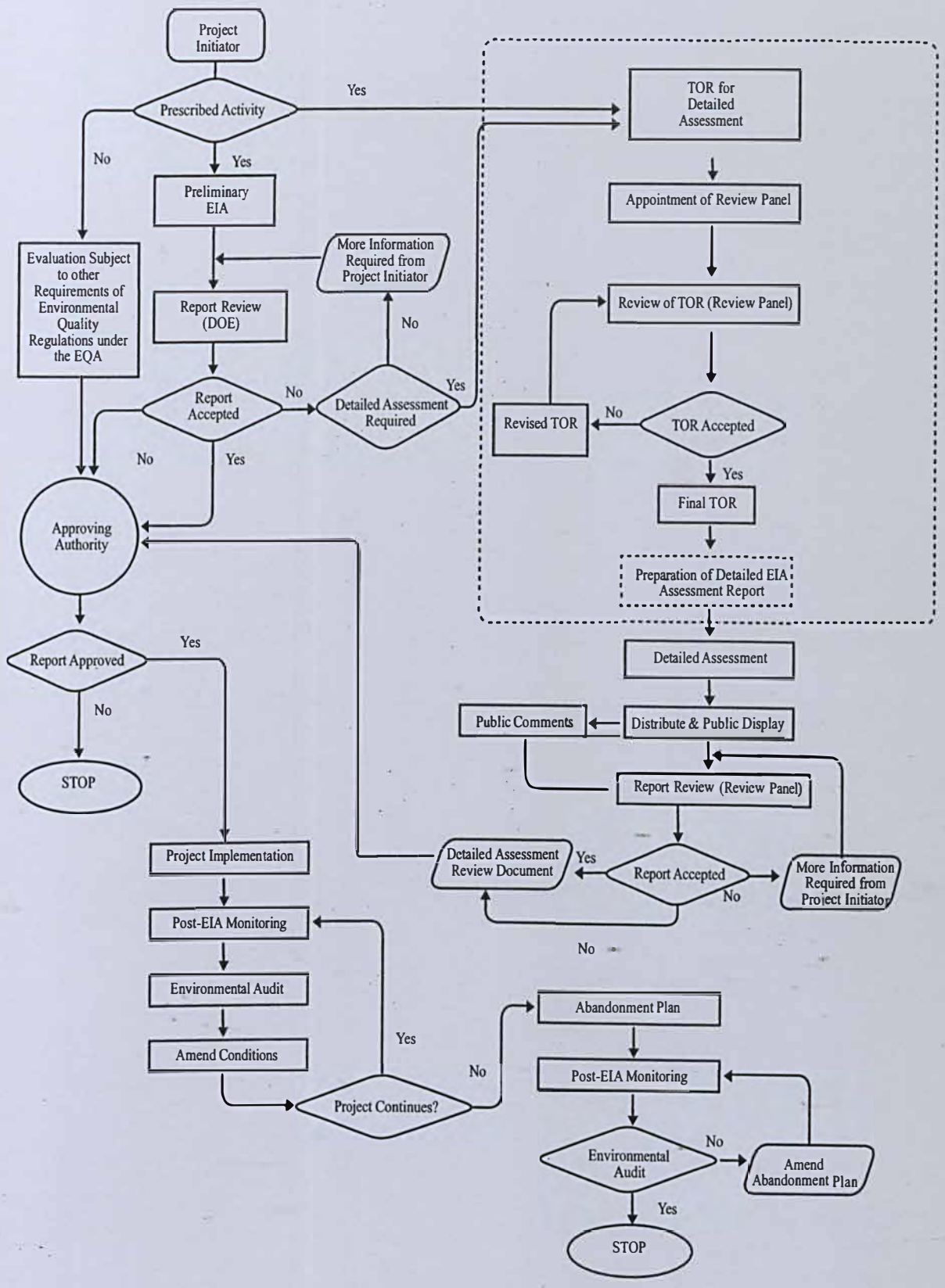


Figure 3 :The Procedure for Preliminary EIA

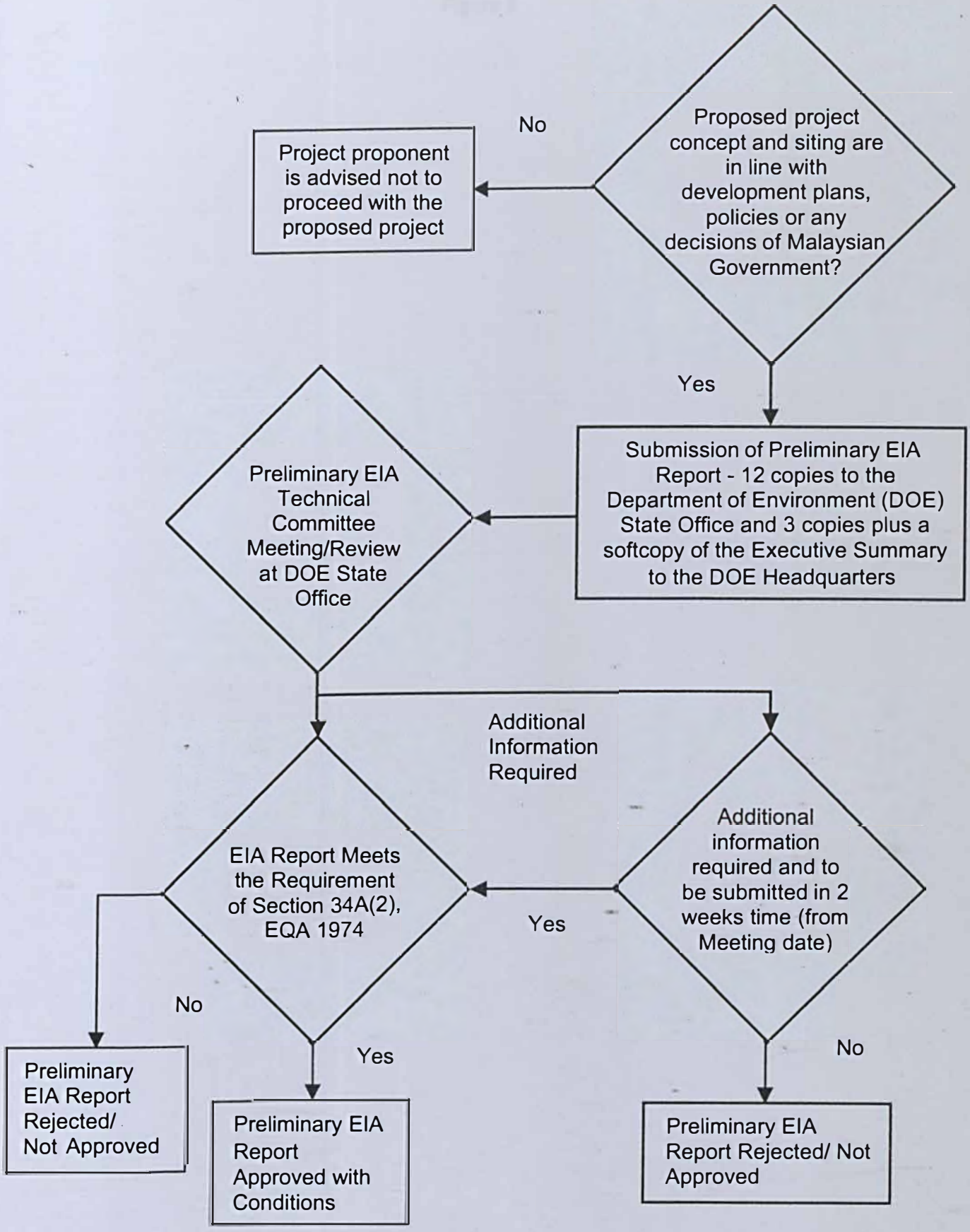
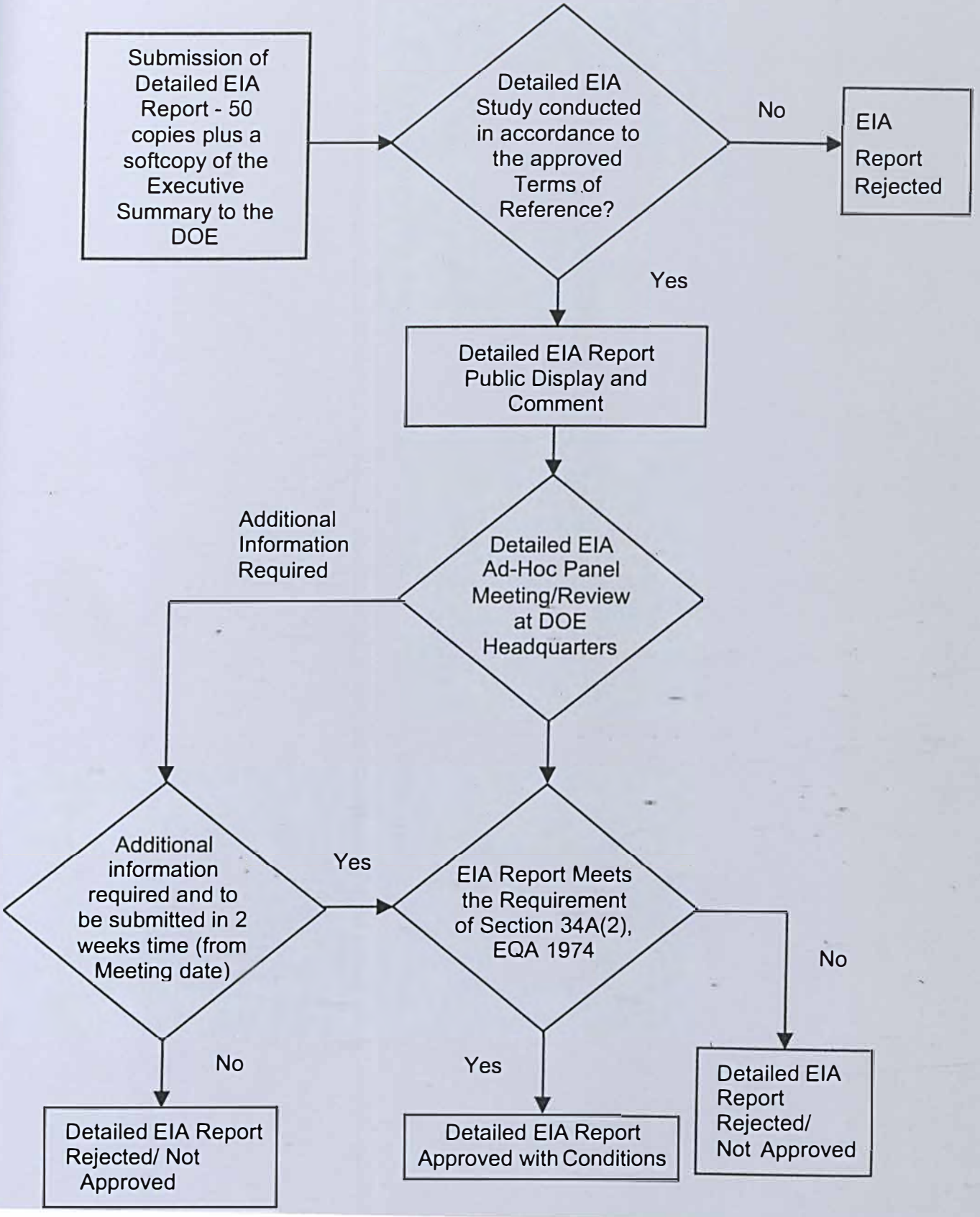


Figure 4: The Procedure for Detailed EIA



Annex 1

Procedure for the Submision of TOR

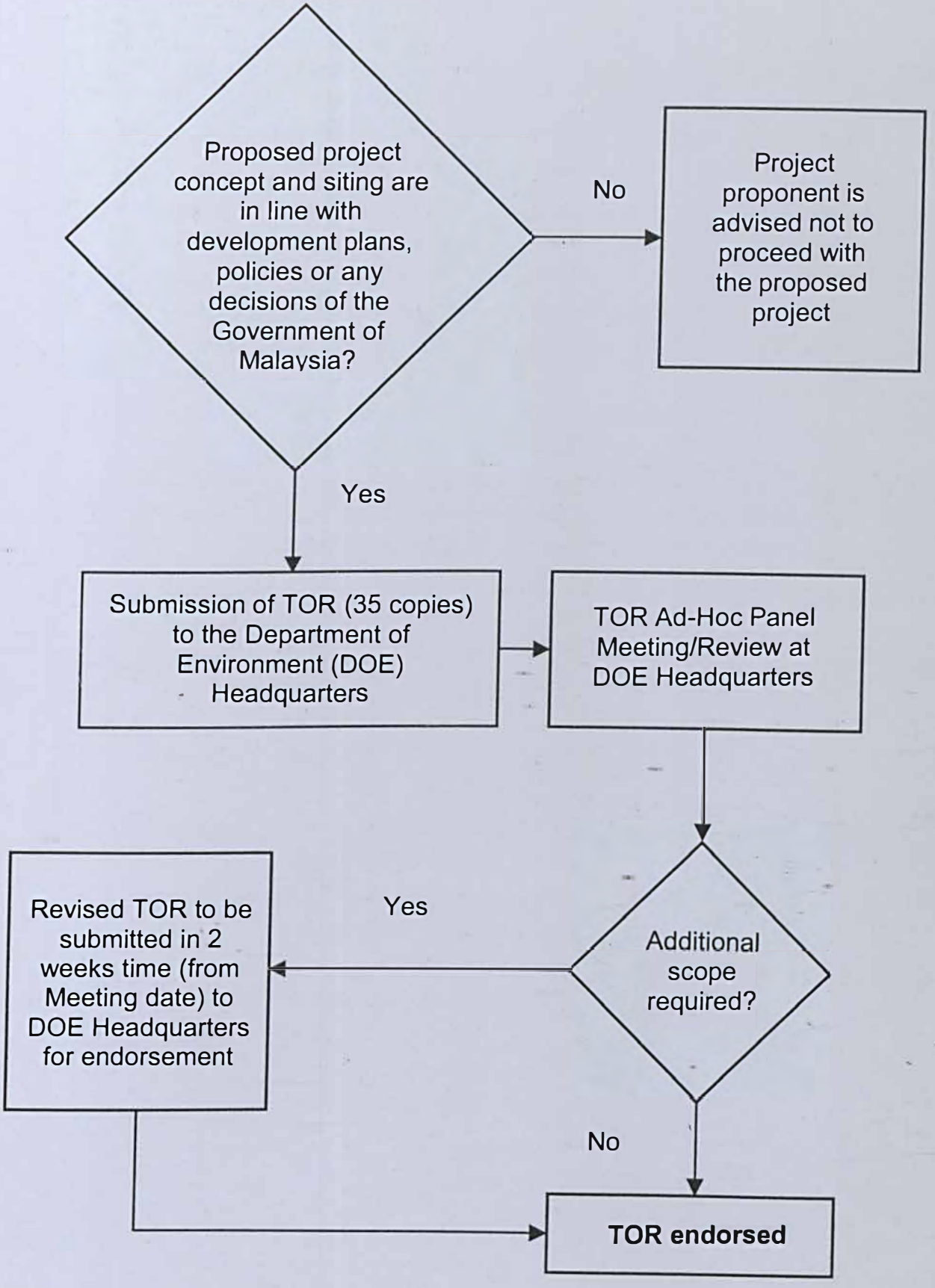


Table 2a

Malaysia: Summary of Activities Subject to Environmental Impact Assessment (Activities Defined by Quantum)

Quantum	Unit	Activity	Number
60,000	Barrel	Construction of product depots for the storage of petrol, gas or diesel.	12(e)
5,000	Tonnes	Shipyards - Dead weight tonnage greater than 5,000 tonnes.	8(f)
4,500	Cubic meters/ day	Groundwater development for industrial, agricultural urban water supply of greater than 4,500 cubic metres per day	19(b)
200	Tonnes/ day	Iron and steel industries using scrap iron as raw materials for production greater than 200 tonnes/day.	8(e)
100	Family	Agricultural programmes necessitating Resettlement of 100 families or more.	1(b)
100	Tonnes/ day	Chemical - Where production capacity of each product or of combined products is greater than 100 tonnes/day.	8(a)
100	Tonnes/ day	Lime production industries - 100 tonnes/ day and above burnt lime rotary kiln.	8(d)
100	Tonnes/ day	Iron and steel industries using iron ore as raw materials for production greater than 100 tonnes/day.	8(e)
50	Tonnes/ day	Non ferrous industries other than aluminium and copper.	8(c)
50	Tonnes/ day	Lime production industries - 50 tonnes/ day and above vertical kiln.	8(d)
50	Tonnes/ day	Pulp and paper industry - Production capacity greater than 50 tonnes/day.	8(g)
30	Tonnes/ day	Cement industries-for clinker throughput of 30 tonnes/hour and above.	8(d)
10	Megaw atts	Construction of steam generated power stations burning fossil fuels and having a capacity of more than 10 megawatts	13(a)

Table 2b

Malaysia: Summary of Activities Subject to Environmental Impact Assessment (Activities Defined by Project Size)

Project Size	Unit	Activity	Number
5,000	Hectare	Irrigation schemes covering an area of 5,000 hectares or more.	3(c)
500	Hectare	Land development schemes covering an area of 500 hectares or more to bring forest land into agriculture production.	1(a)
500	Hectare	Development of agricultural estates covering an area of 500 hectares or more involving changes in types of agricultural use.	1(c)
500	Hectare	Logging covering an area of 500 hectares or more.	6(c)
400	Hectare	Construction of dams and hydroelectric power scheme reservoirs with a surface area in excess of 400 hectares.	13(b)ii
250	Hectare	Mining of mineral in new areas where the mining lease covers a total area in excess of 250 hectares.	11(a)
200	Hectare	Construction of dams and man-made lakes and artificial enlargement of lakes with surface areas of 200 hectares or more.	3(a)
200	Hectare	Construction of dams or impounding reservoirs with a surface area of 200 hectares or more.	19(a)
100	Family	Agricultural programmes necessitating resettlement of 100 families or more.	1(b)
100	Hectare	Drainage of wetland, wild-life habitat or of virgin forest covering an area of 100 hactares or more.	3(b)
80	Room	Construction of coastal resort facilities or hotels with more than 80 rooms.	17(a)

Table 2b (continuation)

Project Size	Unit	Activity	Number
50	Hectare	Coastal reclamation involving an area of 50 hectares or more.	4
50	Hectare	Land-based aquaculture projects accompanied by clearing of mangrove swamp forests covering an area of 50 hectares or more.	5(c)
50	Hectare	Conversion of hill forest land to other land use covering an area of 50 hectares or more.	6(a)
50	Hectare	Conversion of mangrove swamps for industrial, housing or agricultural use covering an area of 50 hectares or more.	6(d)
50	Hectare	Housing development covering an area of 50 hectares or more.	7
50	Hectare	Industrial estate development for medium and heavy industries covering an area of 50 hectares or more.	9(b)
50	Hectare	Sand dredging involving an area of 50 hectares or more.	11(c)
50	Hectare	Hill station resort or hotel development covering an area of 50 hectares or more.	17(b)
50	Kilometre	Construction of off-shore and on-shore pipelines in excess of 50 kilometres in length.	12(b)
40	Hectare	Construction of dams and hydroelectric power schemes with dams over 15 meters high and ancillary structures covering a total area of 40 hectares.	13(b)i
2.5	Kilometre	Construction of airports (having an airstrip of 2,500 metres or longer).	2(a)

Table 2c

Malaysia: Summary of Activities Subject to Environmental Impact Assessment (Activities Not Defined by Unit of Measure)

Prescribed Activity	Activity	Number
AIRPORT	• Airstrip development in state and national parks.	2(b)
FISHERIES	• Construction of fishing harbours.	5 (a)
	• Harbour expansion involving an increase of 50 per cent or more in fish landing capacity per annum.	5 (b)
FORESTRY	• Logging or conversion of forest land to other land use within the catchment area of reservoirs used for municipal water supply, irrigation or hydropower generation or in areas adjacent to state and national parks and national marine parks.	6 (b)
	• Clearing of mangrove swamps on islands adjacent to national marine parks.	6 (e)
INDUSTRY	• Petrochemicals industries – all sizes.	8(b)
	• Primary smelting of aluminium and copper-all sizes.	8(c)
INFRASTRUCTURE	• Construction of hospitals with outfall into beachfronts used for recreational purposes.	9(a)
	• Construction of expressways.	9(c)
	• Construction of national highways.	9(d)
	• Construction of new townships.	9(e)

Table 2c (continuation)

Prescribed Activity	Activity	Number
PORTS	• Construction of ports.	10(a)
	• Port expansion involving an increase of 50 per cent or more in handling capacity per annum	10(b)
MINING	• Ore processing including concentrating for aluminium, copper, gold or tantalum.	11(b)
PETROLEUM	• Oil and gas fields development.	12(a) 12(c)
	• Construction of oil and gas separation, processing, handling and storage facilities.	12(d)
	• Construction of oil refineries.	
POWER GENERATION AND TRANSMISSIONS	• Construction of combined cycle power stations.	13(c)
	• Construction of nuclear-fueled power stations.	13(d)
QUARRIES	• Proposed quarrying of aggregate, limestone, silica, quartzite, sandstone, marble and decorative building stone within 3 kilometres of any existing residential, commercial or industrial areas, or any area for which a licence, permit or approval has been granted for residential, commercial or industrial development.	14
RAILWAYS	• Construction of new routes.	15(a)
	• Construction of branch lines.	15(b)
TRANSPORTATION	• Construction of Mass Rapid Transport projects.	16

Table 2c (continuation)

Prescribed Activity	Activity	Number
RESORT AND RECREATIONAL DEVELOPMENT	• Development of tourist or recreational facilities in national parks.	17(c)
	• Development of tourist or recreational facilities on islands in surrounding waters which are gazetted as national marine parks.	17(d)
WASTE TREATMENT AND DIS-POSAL		
Toxic and Hazardous Waste	• Construction of incineration plant.	18(a)i
	• Construction of recovery plant (off-site).	18(a)ii
	• Construction of wastewater treatment plant (off-site).	18(a)iii
	• Construction of secure landfil facility.	18(a)iv
	• Construction of storage facility (off-site).	18(a)v
Municipal Solid Waste	• Construction of incineration plant.	18(b)i
	• Construction of composting plant.	18(b)ii
	• Construction of recovery/recycling plant.	18(b)iii
	• Construction of municipal solid waste landfill facility.	18(b)iv
Municipal Sewage	• Construction of wastewater treatment plant.	18(c)i
	• Construction of marine outfall.	18(c)ii

Table 1: Role and Interest of various Group/Agencies in the EIA Process

Group	Role	Interest
Project Initiator	Plan, develop and/or manage the key sector development project	Mainly economic (case of private sector) but also socio-economic (in case of public sector development)
Project investor (leading agency and purchasers of land)	Investment in key sector projects	How impacts affect the viability of the project and liabilities to be incurred
Department of Environment (DOE)	Decision on EIA report	Extent of impacts the project has on land use and adjacent development
JPBD	Zoning and land use	Extent of impact the project has on land use and adjacent developments
Other Government Agencies (DID, JKR, Fisheries, Agriculture, Health, Sewerage Services, DOSH, etc)	Relevant inputs in respective areas of expertise	Implications of the proposed project on other projects or activities in which they have interest or wish to promote
Approving Authority	Project Approval	Impacts are to be within acceptable levels with no significant residual effects
Local Authorities	Zoning and development control	Extent of impact the project has on land use and adjacent developments
Local Community	Relevant inputs for protection of local interests	Impacts of project and how they affect the quality of life

Table 2.1 Department of Environment: An Example of A Preliminary Assessment Matrix

Key:

- ☐ Insignificant and excluded from Matrix.
- ☑ Environmental impact that is potentially significant but on a temporary basis, and will assume equilibrium after certain period of time.
- ☒ Environmental impact that is potentially significant but about which there is insufficient data to make a reliable prediction. Close monitoring and control is recommended
- ▨ Potentially significant adverse environmental impact for which a design solution has been identified.
- ☑ Residual and significant adverse environmental impact.
- ☒ Significant environmental enhancement.

ENVIRONMENTAL COMPONENTS			Identification of Activities	PROJECT ACTIVITIES: SITE INVESTIGATION: SURVEY	SITE INVESTIGATION: INVESTIGATION	SITE INVESTIGATION: LAND ACQUISITION	CONSTRUCTION: ACCESS ROADS	CONSTRUCTION: SITE CLEARING	CONSTRUCTION: EXCAVATION	CONSTRUCTION: DRAINAGE	CONSTRUCTION: EROSION CONTROL	CONSTRUCTION: UTILITIES	CONSTRUCTION: ABANDONMENT	OPERATION AND MAINTENANCE: EQUIPMENT OPERATION	OPERATION AND MAINTENANCE: WASTE DISPOSAL AND RECOVERY	OPERATION AND MAINTENANCE: PRODUCT STORAGE	OPERATION AND MAINTENANCE: SPILLS AND LEAKS
	PHYSICOCHEMICAL	LAND	Landforms														
			Soil Profile														
			Soil Composition														
			Slope Stability														
			Subsidence and Compaction														
			Seismicity														
			Flood Plains/Swamps														
			Land Use														
			Engineering and Mineral Resources														
			Buffer Zones														
		SURFACE WATER	Shore Line														
			Bottom Interface														
			Flow Variation														
			Water Quality														
			Drainage Pattern														
			Water Balance														
			Flooding														
			Existing Use														
		GROUND WATER	Water Table														
			Flow Regime														
			Water Quality														
			Recharge														
			Aquifer Characteristics														
			Existing Use														
		ATMOS-PHERE	Air Quality														
			Air Flow														
			Climatic Changes														
			Visibility														
		NOISE	Intensity														
			Duration														
			Frequency														
	BIOLOGICAL	SPECIES AND POPULATIONS	Terrestrial Vegetation														
			Terrestrial Wildlife														
			Other Terrestrial Fauna														
			Aquatic/Marine Flora														
			Fish														
			Other Aquatic/Marine Fauna														
		HABITATS AND COMMUNITIES	Terrestrial Habitats														
			Terrestrial Communities														
			Aquatic Habitats														
			Aquatic Communities														
			Estuarine Habitats														
			Estuarine Communities														
			Marine Habitats														
			Marine Communities														
	HUMAN	HEALTH AND SAFETY	Physical Safety														
			Psychological Well-Being														
			Parasitic Disease														
			Communicable Disease														
			Physiological Disease														
		SOCIAL AND ECONOMIC	Employment														
			Housing														
			Education														
			Utilities														
			Amenities														
			Property & Settlement														
		AESTHETIC AND CULTURAL	Landforms														
			Biota														
			Wilderness														
			Water Quality														
			Atmospheric Quality														
			Climate														
			Tranquility														
			Sense of Community														
			Community Structure														
			Man-Made Objects														
			Historic Places or Structure														
			Religious Places or Structure														
			Landscape														

CONTENTS OF TERMS OF REFERENCE FOR DETAILED EIA REPORT

No	Contents	Description
1	Project Proponent	Include contact details (complete address, phone and fax numbers) of the appropriate and responsible person(s) to whom enquiries regarding EIA should be directed
2	List of Consultants/ Study Team	Details of each individuals (must be registered with DOE) who will carry out the EIA study, which include:- • DOE Registration number. • Academic background. • Experience. • Area of study. • Declaration (signatures). The EIA consultant team is to be lead by a Team/Project leader/ manager who is responsible for the EIA report. Include contact details (complete address, phone and fax numbers) of the appropriate and responsible person(s) to whom enquiries regarding EIA should be directed
3	Statement of Need	The statement of need for a project should be clearly established early in the project planning. The basis and rationale for the proposal would reflect the objective of a project and provide direction during planning. A statement of need also highlights the various benefits of the proposed project.
4	Project Description/ Concept	The project concept must not contradict any development plans, policies or decisions of the Government of Malaysia. A description of the project must be given, including a description of the preferred project option including:-

No	Contents	Description
		• Clear description of the proposed project concept, project size, project components, process technologies and development phases including future phase. • Clear, coloured and readable maps, diagrams and photographs sufficient to enable panel reviewers to clearly understand the nature of the project and the location of all the project components. The location maps should include general location, specific location, project boundaries and project site/ layout plan. • A clear and readable flow chart of the process production and explanation on the process including criteria involved and the maximum capacity, for industrial-based projects.
4	Project Options	A brief discussion on the project options of how the reasonable options were selected and provide the basis for the elimination or options determined to be not reasonable.
5	Description of Existing Environment	The description of the existing environment should identify as appropriate: • The conditions of the physico-chemical, biological and human environment prior to implementation of the project. • The spatial boundaries within which the environment has been considered. • Environmental sensitive areas of special or unique scientific, socio-economic or cultural value that may be affected by the proposed project. The area to be studied (zone of impact) will invariably need to extend beyond the immediate project boundaries as ecological effects can be fairly widespread.

No	Contents	Description
6	Baseline information on the proposed location	Outline the sampling methodologies, sampling locations, monitoring stations and sampling parameters in the collection of baseline information.
7	Project Location and Existing Landuse	The location of the project must be in accordance to the Guidelines on Siting and Zoning for Industries published by DOE; development plans such as the National Physical Plan, Structural Plan and Local Plan; and other relevant guidelines or requirements from other agencies. Description of the project location shall include:- • Exact location of proposed project with clear coordinates. • Existing land use and constraints. • Distance of the proposed project site to any environmentally sensitive receptors and areas. • Macro scale maps (1:50,000 & 1:25,000), plans, photographs or satellite images, clearly identifying the location of the proposed project location. • The landuse map must be clear, readable and in coloured form. An updated satellite image to indicate the recent existing environment may be used. The coverage of the landuse map must be at least within 5 km radius (interval of 250m). For large scale project such as the construction of dams or impounding reservoirs, the coverage of the landuse map may be beyond 5 km radius depending on the catchment area. • Other types of map to be produced in the TOR to describe the existing environment depends on the key and critical issues of the proposed project. They are cadastral map, topography and geological map, bathymetry map, hydrological map, coral population map and etc.

No	Contents	Description
8	Potential Significant Impacts	• Based on the critical issues of the proposed project, briefly describe the potential significant impacts to be studied and criteria that may be used for impact analysis. • Outline the methodologies on the impact analysis/ assessment.
9	Mitigation and Abatement Measures	Based on the prediction of impacts to be studied, define the areas of the proposed project activities to be focused when discussing mitigation and abatement measures at these stages:- • Pre-construction (including feasibility studies and design); • Construction; and • Post-construction (including operation and maintenance)
10	Residual Impacts	Outline potentially significant environmental impacts which may remain after mitigating measures have been applied (long term effects), to be studied in the EIA.
11	Environmental Management Plan (EMP)	Briefly describe the components to be addressed in the Environmental Management Plan.

Note: Please submit **35 copies** of the Terms of Reference to:

Director General
Department of Environment
Ministry of Natural Resources & Environment
Level 1-4, Podium 2 & 3, Wisma Sumber Asli
No. 25, Persiaran Perdana, Precinct 4
62574 PUTRAJAYA

(Attn. to: Director of Assessment Division)